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ABSTRACT

This book presents a conceptual model that supports a comprehensive program for professional development and evaluation. "The Professional Educator Development Model" is a framework that includes both a reconceptualization of teachers' roles and renewed consideration of how teachers' beliefs and desired student outcomes influence teacher decisions. Critical attributes of a school culture wherein such a program can take root and grow are presented and the responsibilities of administrators in creating and maintaining an enabling school culture are specified. The publication begins with an introduction that describes the relationship between professional development and teacher evaluation, the assumptions on which this model rests, and an overview of the model. Succeeding chapters discuss aspects of educational knowledge and practice that the model encompasses: (1) being clear about student outcomes; (2) teacher beliefs; (3) teacher knowledge; (4) teacher responsibilities; and (5) school culture and the administrator role. Ideas and conclusions, as well as reflective activities which can be used for professional development groups are included. Appendixes provide a copy of the Connecticut Competency Instrument used to assess the performance of first-year teachers, and a list of competencies for experienced teachers. (Contains 42 references.) (LL)

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TEACHER

A NEW DEFINITION...

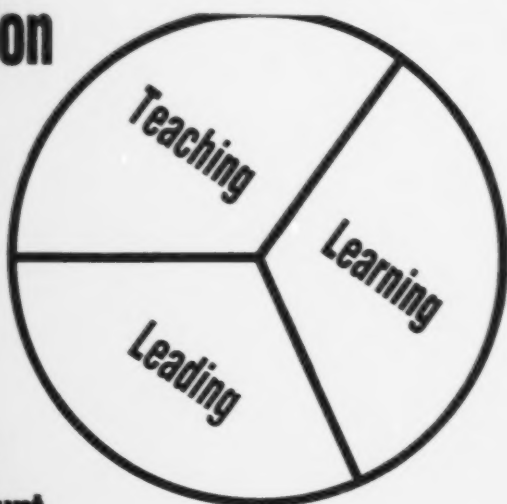
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**TEACHER:
A NEW DEFINITION AND MODEL
FOR
DEVELOPMENT AND
EVALUATION**

BY
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FOREWORD

The authors of this book are five educators. All of us are now in positions that allow sustained contemplation about teaching and learning. Earlier in our careers, when we were classroom teachers and/or administrators faced with the immediacy of school life, such contemplation was seldom possible. We are also fortunate to be educators in Connecticut during a period of exciting reform initiated by the Governor's Commission on Equity and Excellence in Education. Previously, we all participated in the design and implementation of a rigorous, comprehensive, and research-based system of induction for beginning teachers. Now, we have moved on to discuss at length the implications of our work for the professional development and evaluation of experienced teachers. This book describes the resulting new definition of teacher and a new model for professional development and evaluation. It presents ideas and conclusions, as well as activities which can be used for professional development groups.

CONTINUING THE CONVERSATION

We anticipate that our readers are educators like ourselves, with a broad range of experience. Some of you are classroom teachers; others serve as building or district administrators; still others are board of education members or policy makers in state or private agencies. All of us are members of a community of educators with the common goal of providing the best possible education for our youth.

The model we present is the result of a closely held and tightly reasoned position on the relationship between professional development and teacher evaluation and student outcomes. We would like to hear your responses to it and build on those responses. In other words, we invite you to participate in a continuing conversation with us. At various points in the 18-month life of this project, we invited diverse groups of educators to talk with

us; invariably, those conversations extended our thinking and enriched our work.

We have written this book in a familiar style, using the pronoun 'we' throughout, to convey the sense that all of us, readers and writers alike, are working towards a common goal. By doing so, we hope to inspire many conversations, so that you join us in working actively to establish student-outcome-based professional development and teacher evaluation programs.

In the next stage of program development, we will design training modules based on the model described here for teachers and administrators. It is our hope that, with the help of colleagues, we will discover how best to help others understand this model and implement it in their school or district.

THE AUDIENCE: TEACHERS AND ADMINISTRATORS

Our deepest interest is teaching and learning in the classroom. Because no practitioner is more critical for the success of teaching and learning than the classroom teacher, we speak most immediately to teachers. Yet, each individual classroom teacher is part of a system. That system can assist or hinder the teacher's work. We never allow the possibility of malfunctioning systems to influence our belief that teachers are responsible for learning in their classrooms. At the same time, we believe that all other practitioners are responsible for creating and maintaining conducive work environments for teachers. So, although we see teachers as our main audience, we also speak to administrators and other educators. Fine teachers everywhere do the very best they can in their individual classrooms, and their best will be increased exponentially with the support of administrators and policy makers. In other words, we are talking to everyone who has an interest in helping teachers help children to learn.

ACKNOWLEDGEMENT

We express our thanks and appreciation to Dr. Raymond L. Pecheone, Chief, Bureau of Research and Teacher Assessment, Connecticut State Department of Education, whose vision, commitment, and support made this work possible.

I. INTRODUCTION

When teachers examine, question, and reflect on their ideas and develop new practices, students benefit (Barth, 1986).

Good teachers continue to learn as they continue to teach. They are relentless in their determination to find the right combination of instructional techniques and personal support that makes learners out of all students. Effective professional development and constructive teacher evaluation programs help teachers to help learners direct their own learning.

Student learning is the goal of both professional development and teacher evaluation programs, yet these programs are loosely coupled at best. The skepticism with which teachers regard many professional development and evaluation programs is part of the folklore of teaching. The question is how to design professional development and teacher evaluation programs that work together to improve student learning by design, not chance.

In this book, we answer this question by describing a conceptual model that supports a comprehensive program for professional development and teacher evaluation. This is referred to in the text as The Professional Educator Development Model. It is a framework that includes both a reconceptualization of the role of the teacher and renewed consideration of how teacher beliefs and desired student outcomes influence teacher decisions. In addition, we describe the critical attributes of a school culture wherein such a program can take root and grow. We also specify the responsibilities of administrators in creating and maintaining an enabling school culture.

Each chapter is designed to stimulate thoughtful reflection. We begin by describing the relationship between professional development and teacher evaluation, the assumptions on which this model rests, and an overview of the model. Succeeding chapters describe the six aspects of educational knowledge and practice that the model encompasses.

THE MERGER OF PROFESSIONAL DEVELOPMENT AND TEACHER EVALUATION

We are concerned with the work of experienced teachers whose fundamental competence is not a question. In states like Connecticut, where the teacher induction process leads to a more advanced certificate, we address those teachers who have received the advanced certificate. In other states, tenure or some other system may mark the moment when the novice teacher moves into the ranks of those whose mastery of classroom content and pedagogy has been satisfactorily demonstrated. How do we best support the work of these experienced teachers over several decades, so that they continue to learn about teaching and remain vibrant, interested, and successful?

We suggest dropping the distinction between professional development and teacher evaluation for experienced teachers. The distinction serves the profession well in those cases where teachers are still becoming established, or where a particular teacher's competence is in question. However, we do not believe that this distinction serves the competent, experienced teacher well. We need to reconfigure our thinking about this teacher around evaluation and professional growth, with the teacher as the primary evaluator. Such a teacher judges success by using the dual criteria of students' learning and one's own personal growth as a learner and leader, and sets direction for professional growth based upon his or her ongoing evaluation of each criterion.

The task of the educational system, then, has three components: helping these competent, experienced teachers to assess whether their students have indeed learned what we want students to know and be able to do; helping such teachers to develop ways of leading their students to ever higher levels of learning; and helping teachers remain connected to the wider world as a source of new information. This complex task demands both judgment and support; it includes both evaluation and development. We think it no longer makes sense to call it either, but rather to acknowledge that it is both at once.

UNDERLYING ASSUMPTIONS OF THE NEW DEFINITION

The role of teacher needs to be comprehensively redefined in the context of deep respect for teachers as professionals. This is an essential first step in formulating a model of professional development and teacher evaluation that leads to improved student learning. Such respect for teachers is not the starting point for most education reform. Rather, teachers are all too often regarded as part of the problem; they are one of the things that needs fixing. This subtle, but pervasive attitude is destructive. High expectations for students are key to student learning, yet we treat teachers as if they are incapable of meaningful work.

The Carnegie Task Force on Teaching as a Profession (1986) wrote in *A Nation Prepared: Teachers for the 21st Century*, "Teachers must think for themselves if they are to help others think for themselves, be able to act independently and collaborate with others, and render critical judgment" (p. 25). The consequence of assuming that teachers do think for themselves, act independently, collaborate with others, and render critical judgments is to accept *a priori* that they are professionals as defined by Darling-Hammond (1988):

- They possess knowledge which is the basis of permission to practice and to make decisions on behalf of clients.
- They pledge their first concern to the welfare of their clients.
- They assume collective responsibility for the definition, transmittal, and enforcement of professional standards for practice and ethical behavior.

So, we begin believing that teachers are thoughtful decisionmakers. Professional development and teacher evaluation programs will lead to improved student learning to the extent that they enrich the decisions teachers make on behalf of students.

The decisions teachers make are influenced by the beliefs they hold and the knowledge they have about subject matter, child development, and pedagogy. Furthermore, throughout their careers, teachers develop in their ability to make high quality

decisions. At all stages, teachers have a responsibility to be reflective about their practice, always posing the question, "Have my students learned what I intended?" As teachers develop, the repertoire of skills and the body of knowledge and experience they bring to the service of student learning continuously expands.

Teachers, however, do not work alone. They are members of complex organizations called schools. Moreover, the children who come to them are deeply influenced by life circumstances beyond the teacher's control. Teachers are successful to the extent that children achieve the learning outcomes we intend. But judgments about the teacher's success must always be tempered by consideration of the organizational context within which they work and the circumstances affecting the children they teach.

Although the circumstances of students' lives are often beyond the reach of teachers' influence, the organizational context within which teachers work is not. In addition to having primary responsibility for children's learning, teachers also have a responsibility to work outside the classroom on behalf of an enabling school culture.

In summary, the fundamental assumptions of this book are six:

- Experienced teachers are thoughtful decisionmakers.
- Experienced teachers' decisions are influenced by their belief systems and the student outcomes they seek.
- Experienced teachers engage in reflection about their practice, possess a repertoire of skills and a body of knowledge about teaching and learning, and accept professional responsibilities beyond the classroom.
- Experienced teachers develop throughout their careers, becoming more penetrating in their reflection about practice, expanding their repertoire of skills and deepening their body of knowledge and experience, and growing in their capacity to assume responsibilities beyond the classroom.
- The development of experienced teachers in all areas is influenced by the culture of the school.
- The personal responsibility of experienced teachers for career-long development is independent of the favorable or unfavorable conditions of the school cultures within which they work.

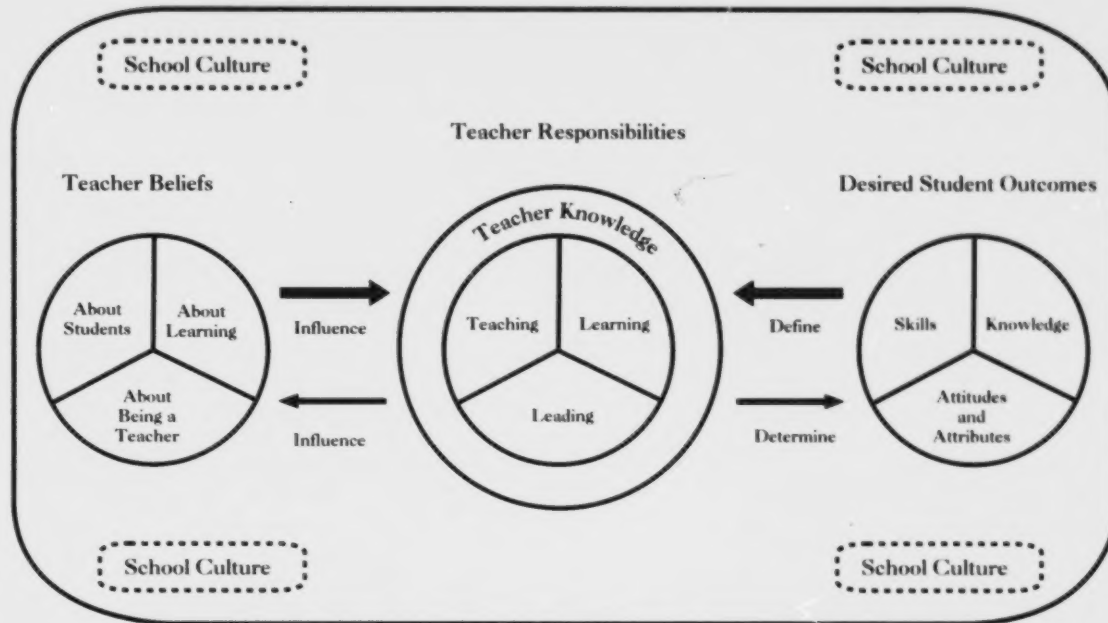
THE NEW MODEL

These assumptions have led to an integrated model of professional development and teacher evaluation consisting of six elements: student outcomes, teacher beliefs, teacher knowledge, teacher responsibilities, administrator responsibilities, and school culture. The interconnectedness of these elements is expressed in the model on the next page (Figure 1):

In the succeeding chapters, we describe each of these elements and explore its implications for effective professional development and teacher evaluation. Because administrator responsibilities and an enabling school culture are so tightly intertwined, we discuss both in the same chapter. Each chapter also contains activities for teachers which extend, explore, and reinforce the ideas presented in that chapter. The book, thus, can be used as the content for a series of professional development activities.

Figure 1

Professional Educator Development Model



II. BEING CLEAR ABOUT STUDENT OUTCOMES

Professional development and teacher evaluation cannot be tightly linked to student learning unless we are clear about intended student outcomes. The first aspect of a teacher's work is to build a bridge between broad goals for student learning at state and district levels and the more narrow objectives and activities that shape daily teaching and learning. This task is what planning is all about. We shall return to it in much greater detail in Chapter IV. For now, we want to emphasize that an essential component of student-outcome-based professional development and teacher evaluation is specification of desired student outcomes for both the long and short term. The outcomes we expect our students to achieve guide our decisions about what we will teach and how we will teach it, and about how we can best assist one another in developing and evaluating our work in leading students to these outcomes.

A second essential precondition for designing and implementing student-outcome-based professional development and teacher evaluation programs is having a comprehensive plan for assessing student learning. Information about how much and how well students are learning is critical to all decisionmaking in teaching. Assessment is a complex task which must incorporate a wide variety of approaches. Nationally normed standardized tests, statewide mastery tests, and other broadly based tests such as the New York Regents and the Advanced Placement tests all play a role in assessing learning. However, such tests are only one small part of the comprehensive assessment which we have in mind. These pencil and paper tests have a format that is not characteristic of life outside of school. They do not require interaction with materials of the world or other people, nor do they pose complex problems that can be solved in divergent ways. Furthermore, tests such as these always have the undesirable effect of narrowing the scope of content available to students, especially if such tests are the only assessment tools.

A quick scan of Connecticut's "Common Core of Learning" reveals instantly that broad learning goals for an educated citizenry could never be assessed adequately by pencil and paper tests alone. The long-term goals educators in other states hold for their students are equally rich and complex, defying simplistic assessment techniques. For these reasons, we are strong advocates of performance assessments, student portfolios, and teacher-designed assessments. Comprehensive learning assessment programs should include all these forms of assessment, each chosen thoughtfully to assess a particular aspect of the totality of student learning.

An example of a performance assessment, being piloted by the Connecticut State Department of Education, is "The Soda Test" (Greig, 1990). This chemistry assessment is underwritten by the National Science Foundation. Groups of students are given the task of distinguishing between samples of regular and diet soda. They are asked to brainstorm various possible tests, select two to perform, specify reasons for their choices, carry out the tests, and report the results.

Should students decide to focus on a critical difference in ingredients between the two samples, i.e., the presence of sugar in the regular soda and its absence in diet soda, then an array of chemical tests becomes appropriate. On the other hand, the students may choose to pursue differences in physical properties of the two samples, such as density or boiling point. There is no one way to solve the problem. Choosing among several paths to a solution simulates the actual work of a chemist much more meaningfully than a multiple choice question that asks "Which of the following are possible tests for sugar?" Furthermore, unlike the multiple choice test, The Soda Test examines whether or not students know the appropriate physical or chemical tests in a particular situation, and whether they can perform them carefully and record the results completely and accurately. Finally, and not insignificantly, such a test can be fun.

The specification and assessment of student learning goals is a complex topic worthy of an entire book of its own. It is beyond the scope of our work to consider it in more detail here. Rather, our intent is to emphasize that deep and thoughtful consideration of the topic is essential for designing and implementing student-outcome-based professional development and teacher evaluation programs. The model of professional development and teacher evaluation which we describe rests on the assumption that its

users are clear about their intended student outcomes and about assessing whether or not students achieve these outcomes.

THE COMMON CORE OF LEARNING

Several states have developed a framework or set of standards for the intended outcomes of schooling. We include Connecticut's Common Core of Learning here to illustrate what a broad statement of student outcomes can be. The Common Core has been developed with an understanding that students begin their schooling at different levels of readiness. Some have developmental handicaps as well. It also acknowledges that students have different interests and aspirations. Recognizing these differences, however, does not justify the development of a different Common Core for each student. To the contrary, the goal of each student developing to his or her fullest potential argues for the creation of one Common Core that holds the highest expectations for each child. The Common Core organizes these expectations under three major headings, with subheadings that reflect significant groups of skills and knowledge:

Attributes and Attitudes

- Self-Concept
- Motivation and Persistence
- Responsibility and Self-Reliance
- Intellectual Curiosity
- Interpersonal Relations
- Sense of Community
- Moral and Ethical Values

Skills and Competencies

- Reading
- Writing
- Speaking, Listening and Viewing
- Quantitative Skills
- Reasoning and Problem Solving
- Learning Skills

Understandings and Applications

- The Arts
- Careers and Vocations
- Cultures and Languages
- History and Social Sciences
- Literature
- Mathematics
- Physical Development and Health
- Science and Technology

The order in which the three major headings appear does not represent their relative importance. It does represent a logical sequence of assuring effective learning. For example, students learn best when they are appropriately motivated and self-confident. Schools share the development of the attitudes and attributes in the first section with the home and other institutions. And, although by-products of effective instruction, these attitudes and attributes are also preconditions for mastering specific skills in the second section. Many of the skills and competencies, and the attitudes and attributes, while not taught directly or from a written curriculum, are continually developed during instruction in the traditional curriculum areas presented in the third section on understandings and applications.

ATTRIBUTES AND ATTITUDES

A positive self-image and self-esteem are crucial to learning. These attributes determine goals, behaviors, and responses to others. Furthermore, people depend on and influence one another. It is important that students take responsibility for their lives and set appropriate goals for themselves. In doing so, they develop life-long attitudes.

Family and societal forces other than schools play major roles in fostering student growth. Schools can provide a supportive climate for that growth. While it is inappropriate for schools to accept sole or even primary responsibility for developing these attributes and attitudes, the fact is that these factors are critical preconditions to learning.

Positive Self-Concept. As part of education in grades K-12, each student should be able to:

- appreciate his/her worth as a unique and capable individual and exhibit self-esteem;
- develop a sense of personal effectiveness and a belief in his/her ability to shape his/her future;
- develop an understanding of his/her strengths and weaknesses and the ability to maximize strengths and rectify or compensate for weaknesses.

Motivation and Persistence. As part of education in grades K-12, each student should be able to:

- experience the pride of accomplishment that results from hard work and persistence;
- act through a desire to succeed rather than a fear of failure while recognizing that failure is a part of everyone's experience;
- strive toward and take the risks necessary for accomplishing tasks and fulfilling personal ambitions.

Responsibility and Self-Reliance. As part of education in grades K-12, each student should be able to:

- assume the primary responsibility for identifying his/her needs and setting reasonable goals;
- initiate actions and assume responsibility for the consequences of those actions;
- demonstrate dependability;
- demonstrate self-control.

Intellectual Curiosity. As part of education in grades K-12, each student should be able to:

- demonstrate a questioning attitude, open-mindedness and curiosity;
- demonstrate independence of thought necessary for leadership and creativity;
- pursue life-long learning.

Interpersonal Relations. As part of education in grades K-12, each student should be able to:

- develop productive and satisfying relationships with others based upon mutual respect;
- develop a sensitivity to and an understanding of the needs, opinions, concerns and customs of others;
- participate actively in reaching group decisions;
- appreciate the roles and responsibilities of parents, children and families.

Sense of Community. As part of education in grades K-12, each student should be able to:

- develop a sense of belonging to a group larger than friends, family and coworkers;
- develop an understanding of the importance of each individual to the improvement of the quality of life for all in the community;
- examine and assess the values, standards and traditions of the community;
- understand and appreciate his/her own historical and ethnic heritage, as well as that of others represented within the larger community.

Moral and Ethical Values. As part of education in grades K-12, each student should be able to:

- recognize the necessity for moral and ethical conduct in a society;
- recognize that values affect choices and conflicts;
- develop personal criteria for making informed moral judgments and ethical decisions.

SKILLS AND COMPETENCIES

All educated citizens must possess a core of basic or enabling skills and competencies that are the critical intellectual foundations for broader acquisition of knowledge. These enabling skills, applied in diverse ways, form the heart of an academic experience as each contributes to the development of understanding within and among disciplines.

Reading. As a result of education in grades K-12, each student should be able to:

- identify and comprehend the main and subordinate ideas, details and facts in written work, and summarize the ideas in his/her own words;
- identify, comprehend and infer comparisons, contrasts, sequences and conclusions in written work;
- recognize different purposes and methods of writing, identify a writer's point of view and tone, and interpret a writer's meaning inferentially as well as literally;
- set purposes, ask questions and make predictions prior to and during reading, and draw conclusions from reading;
- make critical judgments about written work including separating fact from opinion, recognizing propaganda, stereotypes and statements of bias, recognizing inconsistency and judging the validity of evidence and sufficiency of support;
- vary his/her reading speed and method based on the type of material and the purpose for reading;
- use the features of books and other reference materials, such as table of contents, preface, introduction, titles and subtitles, index, glossary, appendix and bibliography.

Writing. As a result of education in grades K-12, each student should be able to:

- write standard English sentences with correct sentence structure, verb forms, punctuation, capitalization, possessives, plural forms, word choice and spelling;
- select, organize and relate ideas and develop them in coherent paragraphs;
- organize sentences and paragraphs into a variety of forms and produce writing of an appropriate length using a variety of composition types;
- use varying language, information, style and format appropriate to the purpose and the selected audience;

- conceive ideas and select and use detailed examples, illustrations, evidence and logic to develop the topic;
- gather information from primary and secondary sources; write a report using that information; quote, paraphrase and summarize accurately; and cite sources properly;
- improve his or her own writing by restructuring, correcting errors and rewriting.

Speaking, Listening and Viewing. As a result of education in grades K-12, each student should be able to:

- engage critically and constructively in an oral exchange of ideas;
- ask and answer questions correctly and concisely;
- understand spoken instructions and give spoken instructions to others;
- distinguish relevant from irrelevant information and the intent from the details of an oral message;
- identify and comprehend the main and subordinate ideas in speeches, discussions, audio and video presentations, and report accurately what has been presented;
- comprehend verbal and nonverbal presentations at the literal, inferential and evaluative levels;
- deliver oral presentations using a coherent sequence of thought, clarity of presentation, suitable vocabulary and length, and nonverbal communication appropriate for the purpose and audience.

Quantitative Skills. As a result of education in grades K-12, each student should be able to:

- add, subtract, multiply and divide using whole numbers, decimals, fractions and integers;
- make and use measurements in both traditional and metric units to measure lengths, areas, volumes, weights, temperatures and times;
- use ratios, proportions and percents, powers and roots;

- understand spatial relationships and the basic concepts of geometry;
- make estimates and approximations, and judge the reasonableness of results;
- understand the basic concepts of probability and statistics;
- organize data into tables, charts and graphs, and read and interpret data presented in these forms;
- formulate and solve problems in mathematical terms.

Reasoning and Problem Solving. As a result of education in grades K-12, each student should be able to:

- recognize and use inductive and deductive reasoning, recognize fallacies, and examine arguments from various points of view;
- draw reasonable conclusions from information found in various sources, and defend conclusions rationally;
- formulate and test predictions and hypotheses based on appropriate data;
- comprehend, develop and use concepts and generalizations;
- identify cause and effect relationships;
- identify and formulate problems;
- gather, analyze, synthesize and evaluate information pertinent to the problem ;
- develop alternative solutions to problems, weigh relative risks and benefits, make logical decisions and verify results;
- use critical and creative thinking skills to respond to unanticipated situations and recurring problems.

Learning Skills. As a result of education in grades K-12, each student should be able to:

- set learning goals and priorities consistent with stated objectives and progress made, and allocate the time necessary to achieve them;

- determine what is needed to accomplish a task and establish habits conducive to learning independently or with others;
- follow a schedule that accounts for both short and long term project accomplishment;
- locate and use a variety of sources of information including print and non-print materials, computers and other technologies, interviews and direct observations;
- read or listen to specific information and take effective and efficient notes.

UNDERSTANDINGS AND APPLICATIONS

Skills and competencies cannot be ends in themselves. Students must have the knowledge and experiences to apply them in fully understanding life, or else their education will be incomplete.

Schools must therefore lead students through both a body of knowledge and its application. This is what comprises the major content of the curriculum. Understandings and applications have been grouped here under the usual disciplines, but it is important to recognize the inter-relationship among the disciplines and to promote students' ability to transfer knowledge and applications across subject areas.

The Arts. As a result of education in grades K-12, each student should be able to:

- express his/her own concepts, ideas and emotions through one or more of the arts (art, music, drama and dance);
- appreciate the importance of the arts in expressing and illuminating human experiences;
- understand that personal beliefs and societal values influence art forms and styles;
- identify the materials, processes and tools used in the production, exhibition and public performance of works of art, music, drama and dance;
- use and understand language appropriate to each art

form when discussing, critiquing and interpreting works in the visual and performing arts;

- identify significant works and recognize the aesthetic qualities of art, music, drama and dance from different historical periods and cultures.

Careers and Vocations. As a result of education in grades K-12, each student should be able to:

- demonstrate positive attitudes toward work, including acceptance of the necessity of making a living and an appreciation of the social value and dignity of work;
- demonstrate attitudes and habits (such as pride in good workmanship, dependability and regular attendance) and the employability skills and specialized knowledge that will make the individual a productive participant in economic life and a contributor to society;
- consider the range of occupations that will be personally satisfying and suitable to his/her skills, interests and aptitudes;
- identify, continue or pursue the education and training necessary for his/her chosen career/vocation;
- understand personal economics and its relationship to skills required for employment, promotion and financial independence;
- exhibit the interpersonal skills necessary for success in the workplace (such as working harmoniously as part of a team and giving and taking direction).

Cultures and Languages. As a result of education in grades K-12, each student should be able to:

- recognize characteristics common to all people, such as physical attributes, emotional responses, attitudes, abilities and aspirations;
- respect differences among people and recognize the pluralistic nature of United States society;
- demonstrate an understanding of other cultures and their roles in international affairs;
- analyze the structure of spoken and written language;

- recognize the commonalities and the differences that exist in the structure of languages;
- understand and communicate in at least one language in addition to English.

History and Social Sciences. As a result of education in grades K-12, each student should be able to:

- recognize and analyze events, personalities, trends and beliefs that have shaped the history and culture of Connecticut, the United States and the world;
- demonstrate a knowledge of United States history and government and understand the duties, responsibilities and rights of United States citizenship;
- understand the basic concepts of economics;
- analyze and compare the political and economic beliefs and systems of the United States with those of other nations;
- apply major concepts drawn from the disciplines of history and the social sciences—anthropology, economics, geography, law and government, philosophy, political science, psychology and sociology—to hypothetical and real situations;
- demonstrate basic knowledge of world geography;
- apply critical thinking skills and knowledge from history and the social sciences to the decisionmaking process and the analysis of controversial issues in order to understand the present and anticipate the future;
- understand the roles played by various racial, ethnic and religious groups in developing the nation's pluralistic society;
- appreciate the mutual dependence of all people in the world and understand that our lives are part of a global community joined by economic, social, cultural and civic concerns.

Literature. As a result of education in grades K- 12 each student should be able to:

- understand that literature reflects and illuminates human experiences, motives, conflicts and values;

- understand the essential elements of poetry drama, fiction and nonfiction;
- understand and appreciate selected literary masterpieces, both past and present, that manifest different value systems and philosophies;
- recognize symbolism, allegory and myth;
- identify literary themes and their implications;
- evaluate selected literary works and support each evaluation;
- enjoy reading as a life-long pursuit.

Mathematics. As a result of education in grades K-12, each student should be able to:

- understand that mathematics is a means of expressing quantifiable ideas;
- apply mathematical knowledge and skills to solve a broad array of quantitative, spatial and analytical problems;
- use mathematical skills and techniques to complete consumer and job-related tasks;
- select and use appropriate approaches and tools for solving problems, including mental computation, trial and error, paper and pencil, calculator and computer;
- use mathematical operations in describing and analyzing physical and social phenomena;
- demonstrate a quantitative sense by using numbers for counting, measuring, comparing, ordering, scaling, locating and coding;
- apply basic algebraic and geometric concepts to representing, analyzing and solving problems;
- use basic statistical concepts to draw conclusions from data.

Physical Development and Health. As a result of education in grades K-12, each student should be able to:

- understand human growth and development, the functions of the body, human sexuality and the life-long value of physical fitness;

- plan and implement a physical fitness program with a variety of conditioning exercises and/or leisure activities;
- understand the basic scientific principles which apply to human movement and physical activities;
- understand the role physical activities play in psychological and social development;
- understand and apply the basic elements of proper nutrition, avoidance of substance abuse, prevention and treatment of illness, and management of emotional stress;
- recognize the need for a safe and healthy environment, practice proper safety skills, and demonstrate a variety of basic life saving skills.

Science and Technology. As a result of education in grades K-12, each student should be able to:

- understand and apply the basic principles, concepts and language of biology, chemistry, physics, earth and space science;
- understand the implications of limited natural resources, the study of ecology and the need for conservation;
- identify and design techniques for recognizing and solving problems in science, including the development of hypotheses and the design of experiments to test them—the gathering of data, presenting them in appropriate formats, and drawing inferences based upon the results;
- use observation and analysis of similarities and differences in the study of natural phenomena;
- demonstrate the ability to work with laboratory measuring, manipulating and sensing devices;
- understand the implications of existing and emerging technologies on our society and our quality of life, including personal, academic and work environments;
- recognize the potential and the limitations of science and technology in solving societal problems.

Many of the individual items in Connecticut's Common Core of Learning have been taken in whole or in part or have been adapted from other sources: The College Board (1983), National Academy of Sciences (1984), Task Force on Education for Economic Growth (1983), Goodlad (1979), Roberts and Cawelti (1984), and Research and Policy Committee (1985). Sincere appreciation is extended to each of the organizations and authors responsible for these high quality prior efforts, without which Connecticut's task would have been much more difficult.

REFLECTIVE ACTIVITIES

1. Read the Common Core of Learning carefully and select one item from each of the three categories for reflection. Over a period of two weeks, note in a journal moments in your teaching when you see yourself working to bring the selected outcome to life. For example, under the heading Motivation and Persistence within the category Attitudes and Attributes, what in your teaching encourages students "to take the risks necessary for accomplishing tasks and fulfilling ambitions?" Read your journal and think about changes it suggests, if any, in your teaching. Give yourself credit for all the successes your journal identifies.

2. Select a unit from your teaching and match it to the relevant items in the Common Core of Learning. For example, if you are a fifth grade teacher teaching a social studies unit on the American West, under the heading History and Social Studies, what evidence do you see in your students' work that establishes their growth in "understanding the roles played by various racial, ethnic, and religious groups in developing the nation's pluralistic society?" Under the category Culture and Languages, with respect to Native Americans, what evidence do you see that your students recognize characteristics common to all people, such as physical attributes, emotional responses, attitudes, abilities, and aspirations?

3. Search out outcome statements particular to your setting. For example, has your district written a philosophy or mission statement? Do curriculum documents in your district specify broad student outcomes comparable to the statements in the Common Core of Learning? Identify two or three salient outcomes from these documents and keep a reflective journal for several weeks, noting how your teaching leads students to achieve these

outcomes. Read your journal and decide what it suggests, if anything, about changes you might make in your teaching. Take a quiet moment and give yourself a pat on the back for all the ways your journal demonstrates that you are leading students to desired outcomes.

4. Make a list of all the ways you assess student outcomes. Next to each item, write what you learn about students' learning through the assessment. Compare what your assessment practices reveal about student learning with what the Common Core of Learning and/or your particular outcome documents indicate is important to know. Do you have reliable information about student learning for outcomes in all categories, including Attitudes and Attributes? If not, what changes might you make in your assessment practices?

5. Join with others in your school in searching for information about the evolving field of performance assessment. Arrange a study group in which each person brings in one article about performance assessment to describe to others. Discuss the implications of your readings for assessment practices in your school and your classroom.

6. Tell several of your colleagues that you are working on one or more of the activities. Encourage them to do the same thing and arrange a series of meetings where you discuss your findings. This way you enlarge the pool of good ideas about what changes, if any, you and your colleagues want to make in your teaching. Commend one another for all the successes you each bring to the discussions.

III. TEACHER BELIEFS

What belief system should underpin the practice of teaching and to what standards should these beliefs conform? The Code of Ethics established by the National Education Association states that teachers must believe in the worth and dignity of each human being, and recognize the supreme importance of commitment to excellence and equity for all. Therefore, it is our inherent responsibility to help each student realize his or her potential as a valued and effective member of society by stimulating the spirit of inquiry, the acquisition of knowledge and understanding, and the thoughtful formulation of worthy goals. Our commitment to students is the source of our commitment to the teaching profession. Given that the quality of the services educators provide directly influences the nation and its citizens, it is our responsibility to exert every effort to raise professional standards and to promote a climate that encourages the exercise of professional judgment.

SIX BASIC PRECEPTS

Like the mission statements that guide the activities of other organizations, the following precepts express the beliefs that undergird exemplary teaching practice and set the ethical standards against which professional practice should be judged. Adherence to these beliefs is a necessary, although not sufficient, condition for excellence in teaching.

ALL CHILDREN CAN LEARN

At the very center of our belief system is the conviction that every child can and must learn, regardless of social, cultural, racial, ethnic, gender, physical, or economic circumstances. Exactly what and how much each child can learn may vary, but we must have no doubt that each child can and must learn.

TEACHERS MAKE A DIFFERENCE

Teachers influence the lives of our students, the cultures of our schools, and the vitality of our profession. Although many other factors also influence children, we must believe that our work with them has a lasting impact on their lives. Likewise, we alone do not determine the culture of our school, or the efficacy of the teaching profession as a whole. But we must believe that our individual efforts do have influence, and that we do contribute to the effectiveness of our school culture and profession in important and essential ways.

GROWTH AS A TEACHER REQUIRES INQUIRY AND REFLECTION

We must believe that the development of inquiry and reflection is essential to expanding of our repertoire, to increased understanding of the intricacies of teaching and learning, to our ability to make decisions that are informed by our own experience and that of others, and, ultimately, to improved student learning. Alone and together, we must identify, investigate, and solve problems of the classroom. In order to do this, we must create opportunities during each day that allow us to reflect upon and learn from our experiences as teachers.

TEACHERS ARE MODELS OF EDUCATED CITIZENS

We must believe the ultimate goal of our work as teachers is to assist students to become educated members of the world community. Inherent in this goal is the expectation that our own lives model the behaviors of an educated person. For, says William James (1958), "The child will always attend more to what the teacher does than to what the same teacher says" (p. 73).

To be a model of an educated citizen in Connecticut, for example, means that we display the attitudes and attributes, understandings and applications, skills and competencies specified in the Common Core of Learning. Educated citizens, have a positive sense of self, function with motivation and persistence guided by a set of values, exhibit a sense of responsibility toward themselves and others, possess understandings and applications integrated across disciplines, and make their store of knowledge accessible to students in varied ways.

LEARNING IS A LIFE-LONG RESPONSIBILITY

As we strive to model the attributes of an educated person, we need to be persistent in our pursuit of knowledge about the world in which we live. In addition, as teachers, we must believe that we have a responsibility to keep abreast of current educational research, integrating new understandings into instruction. In this way, we guarantee that our work with students remains informed by scholarship and experience. Nurturing an attitude of intellectual curiosity within ourselves will serve as a stimulus for the continual pursuit of learning.

THERE IS POWER IN COLLABORATION

Together we know more than any one of us knows individually. Thus, we must believe that we have an obligation to share knowledge, wisdom, and counsel with our colleagues, and to seek such from them in return. We understand that collaboration among adults results in greater productivity and expertise, more positive interpersonal relationships and cohesion, increased support within the faculty, and enhanced self-esteem (Johnson and Johnson, 1990). These outcomes of collaboration will help us lead students to our intended outcomes for them.

BELIEFS IN ACTION

Teachers' beliefs affect their success in achieving specified student outcomes. Most professional development and teacher evaluation programs neglect to acknowledge this fundamental aspect of teaching. Successful professional development and teacher evaluation programs must bring teachers' unarticulated beliefs to the surface. In the case of Bob, whose story follows, an analysis of his beliefs reveals heretofore unexamined reasons for making the decisions he makes. One reason why so many well-meaning attempts by supervisors to influence teacher behaviors are ineffective is the unrecognized power of unexamined beliefs.

Research about teachers' implicit theories and beliefs is perhaps the least documented segment of the literature on teaching. Most are small-sample descriptive studies. Prior to the intervention of a researcher, a teacher's beliefs are typically not well specified. The central task of the researcher is to assist the

teacher in moving from an implicitly held and private belief system to an explicit description of his or her cognitive frame of reference. Case studies illustrate the importance of teacher beliefs in guiding the way teachers think about their roles, their students, their own professional responsibilities, and their own teaching behaviors.

In the following vignette, a veteran of 19 years describes his beliefs about teaching. While participating in a study about decisionmaking in the interactive phase of teaching, this teacher, Bob, was asked to stop the videotapes of lessons at points where he was making teaching decisions, and to articulate those decisions. He then elaborated upon the decisions, often describing the belief systems behind his decisions and behaviors. As you read Bob's analysis of his decisions, watch for evidence of the six beliefs in action.

CASE STUDY: A VETERAN TEACHER'S BELIEFS

"You know, some of these kids that seem to be doing very well here are classified as unsuccessful students. They are grouped according to past achievement, and will tell you that they are in all the low groups. However, because we have fought hard for heterogeneous grouping in social studies, when they come in here, they forget they are placed in the lower track. They bring a different vantage point to the class, and the others actually look for their contributions.

"We use the quarter system in here. It basically breaks up the period into four 10-minute segments. The first 10 minutes, we review homework assignments, or summarize information from previous lessons. The next 10 minutes, I present or illustrate the new learning. Sometimes, this 10 minutes is there primarily to motivate them to do what I'll ask in the next segment. In any case, that second segment I consider pretty much my responsibility. During the third 10 minutes, they have a task to do, usually individually. In today's lesson, you saw that they had to construct a timeline, based on what they read in their text. In the fourth segment, they share what they've done with others. Today, they shared in small groups; they checked their accuracy against others in their group; and if there was disagreement, they had to figure out why, then reach consensus as to what the timeline should include, given the information that was read.

My decision to tell them I'd collect one paper at random was made because I wanted them to know that each of their papers

should be the best the group could produce. Now in other lessons, I might ask individuals to come to the front of the room to lead a large group discussion, or I might ask one person from each group to share with the class, using an overhead, what their group decided. Other times, I've had them do a non-verbal representation of what they learned on a transparency for the whole class to see.

"Although I usually have the structure of each class prepared ahead of time, there are always last minute decisions to make because my kids are different each day. While I might have planned to have them do one thing, their moods, willingness to tackle a difficult task, or readiness often lead me to change things midstream. An example I can give you refers to that non-verbal representation I talked about before. Some of my students are very verbal, while others are skilled writers. They tend to be creative and can help their group act out what they learned, or turn their learning into a drawing. I find each of them has a contribution to make. This quarter system really lets me capitalize on their individual strengths, giving students a chance to succeed and feel good about themselves. That's what I mean about them forgetting about ability groups in here. They know that their skills are needed and valued and that they can learn from each other, and help others to learn as well.

"You know, it wasn't until just recently, within the last five to six years, that I even learned about this quarter system model. While taking graduate credits for my sixth year, we were encouraged to spend some time investigating something we personally wanted to learn about. This investigation was to take the place of two of the evening classes. Well, I heard about this at a middle school conference, and got every piece of literature I could get my hands on to read. I must have spent ten times the requirement just reading. What I'm finding is that the more I learn about my teaching, the more I realize I don't know. I offered to do a workshop for social studies teachers here in my district and found about half to be interested. Some even asked to come watch one of my classes to see how the idea plays out. Now, several other teachers in the system have adopted this model, probably not to the degree that I use it, but they've found certain pieces works well with their kids.

"I guess what I'm realizing is that in having to tell you about my decisions, I've gone off on some tangents here. But watching myself teach and thinking out loud about what went on, I've

noticed many things. I'm very rarely doing the talking in the classroom. This is intentional. I know that when I first started teaching, I was prone to stand and deliver the information. I worked very hard; my feet hurt, my voice faded toward the end of the day, and what I most sadly remember is looking out at many passive faces. Yes, they sometimes took notes, but I can't imagine them finding much meaning in them, seeing as their notes mostly mirrored my words, rather than their own thoughts. I'm more confident about my teaching now, because I'm not doing most of the work during the lesson. They are, and they are the ones who come to school to learn, not me. Oh, that came out not sounding like I wanted it to. Don't get me wrong. I learn every day from my kids, from other teachers; in fact, I'm learning even now as I watch and think about what went on in that classroom. But their learning is what I'm here for. I have to keep learning, though, in order to make sure that their learning is the best it can be. It sounds complicated and I guess it is. In any case, everyone should have the opportunity to watch themselves and talk to someone else about what they do. This would be a great idea for supervision; they didn't tell us about this technique when I went through my program. It has taken us two hours to talk about this 40-minute lesson; somehow we ought to give all teachers this time to learn about themselves."

You will note how Bob's beliefs become clear, as he talks about the act of teaching. In verbalizing the decisions he made during the lesson, he expressed a desire, and almost a need, to explain the "why" behind his teaching decisions. In doing so, his beliefs about his role, the goals he holds for his students, and his commitment to his own professional growth all unfold. This teacher **firmly believes that all students can learn**, and holds himself responsible for making that happen in his classroom. In other words, **he believes he has an impact on the lives of his students. He reflects on his teaching** with a high degree of clarity about his purposes and goals, and welcomes the opportunity to think aloud about his teaching. In addition, he seeks to share his own learning with others, and proclaims there will always be more to learn himself. **He understands the value of collaborating with others. He himself is a life-long learner.** If his videotaped lesson were available, it would be easy to see how his beliefs become concrete in the classroom.

In this one conversation with Bob, we identified five of the six core beliefs. You may see additional evidence of the core

beliefs, or evidence of additional beliefs. The six core beliefs described in this chapter are essential for excellent teaching. We also recognize that other educators may hold beliefs in addition to these. However long the list of our beliefs, the key is to hold these beliefs consciously. That way we are mindful of their influence on our decisionmaking about how best to lead students to desired outcomes.

CONCLUSION

For educators to embrace these six beliefs is an essential condition for success in leading our students to desired outcomes. The conscious and regular examination of our belief systems is a condition of effective professional development and teacher evaluation. Finally, our belief system does not stand alone, but rather is part of a synergistic system in which each part affects the others. We urge you to keep the beliefs in mind as you read, remembering that they both strengthen and are strengthened by all other parts of the model.

REFLECTIVE ACTIVITIES

Here are some reflective activities to use in exploring your beliefs as a teacher and the impact your beliefs have on classroom practice.

1. List your own personal beliefs about teaching. Identify two or three to which you feel most committed. Why are these important to you?
2. Compare your own beliefs with those in this book. What similarities and differences do you notice? Do you agree that the six core beliefs listed here are essential to excellent teaching? Why or why not?
3. Examine the impact of your own belief system on your teaching. How do your beliefs align with your teaching practice? What factors assist or inhibit making your beliefs come to life in your teaching?
4. Have you had the experience of talking about your beliefs with a colleague or supervisor? If so, what did you learn from that

discussion? If not, what has prevented you from having this discussion? In your opinion, is the articulation of your beliefs to other professionals helpful to you? Why or why not?

5. Think of a colleague who you feel has a different belief system. How do the differences play out both in the classroom and in other areas of professional responsibility? What would you do if you knew of a teacher whose beliefs were harmful to students?

6. "Success for all our students is now more than a romantic ideal; it is a political and economic necessity. With changing demographics and rising societal demands, we must find ways to educate more of the children who usually fail" (Brandt, 1990). React to this quotation in light of your own belief system.

7. Videotape your class and analyze it for your beliefs in action. Do this alone or in conversation with a colleague.

8. Consider the implications of your belief system for the course of your professional development. Are there activities in which you might engage to make your belief system come alive in the classroom?

9. Construct a series of questions to explore the implications of each of the six core beliefs. Organize a group of colleagues to discuss the questions. We pose some possibilities below:

ALL CHILDREN CAN LEARN

- Do I justify stimulating and encouraging some students to move well beyond where they are while providing only minimal support to others?
- Is there any student in my class upon whom I have imposed "invisibility" or "nobodyness" simply because he or she doesn't fit?

TEACHERS MAKE A DIFFERENCE

- What relationship do I see between my thinking and behavior and my students' performance?
- What relationship do I see between my exercise of leadership and the attainment of my school's/district's goals?

GROWTH AS A TEACHER REQUIRES INQUIRY AND REFLECTION

- What self-analytical questions can I construct that might assist me in reflecting about my teaching?
- What problem am I now facing in my classroom that I might solve by collecting and analyzing information?

TEACHERS ARE MODELS OF EDUCATED CITIZENS

- In what ways do I model what it means to be a self-directed learner for my students?

LEARNING IS A LIFE-LONG RESPONSIBILITY

- What are my professional reading habits?
- How does my reading relate to student outcomes, my on-going professional development, improving my teaching, or helping students to learn?

THERE IS POWER IN COLLABORATION

- In what ways might I share my experiences and expertise in order to increase the knowledge base of the profession?
- How can I seek out and initiate more conversations with colleagues in order to cultivate unexpected new ideas and insights?
- What steps can I take to make peer coaching a part of my professional life?

IV. Teacher Knowledge

A teacher knows something not understood by others, presumably the students. The teacher can transform understanding, performance skills, or desired attitudes or values into pedagogical representations and actions. These are ways of talking, showing, enacting, or otherwise representing ideas so that the unknowing can come to know, those without understanding can comprehend and discern, and the unskilled can become adept. Thus, teaching necessarily begins with a teacher's understanding of what is to be learned and how it is to be taught. It proceeds through a series of activities during which the students are provided specific instruction and opportunities for learning, though the learning itself ultimately remains the responsibility of the students. Teaching ends with new comprehension by both the teacher and the student (Shulman, 1986, p.7).

We in education are haunted by the public's erroneous belief that someone can walk in off the street and deliver a curriculum to 30 or so children. Raising any number of children and having gone to school for a number of years does not make an expert teacher. I believe we are on the threshold of creating a scientific basis for the art of teaching that will be acceptable to the general public as truly specialized knowledge. As the art of medicine has been enriched by a scientific underpinning, so is the art of teaching about to be enriched (Berliner and Rosenshine, 1987, p. 6).

A recurring theme of the 1980s reform efforts was professionalization of teaching, that is, the elevation of teaching to a more respected, responsible, rewarding, and rewarded occupation. The claim that teaching deserves professional status, and that it is among the learned professions, is based on the argument that there exists a knowledge base for teaching and that the profession's rhetoric articulates that knowledge base.

Reform proposals of both the Carnegie Task Force (1986) and the Holmes Group (1986) have suggested that teacher education be augmented and lengthened, incorporating the assumption that something substantial is to be learned. In addition, these reports have recommended raising teacher standards and introducing a system of examinations, thus assuming that there is an existing knowledge base and skills to examine. A knowledge base for the teaching profession has, in fact, begun to take shape.

An emerging framework is defining this knowledge base. Many outstanding educational researchers have contributed to its development. The following scholars have captured a generally accepted and agreed upon "essence" of the knowledge base of teaching and have identified its content and character: Shulman (1986), Shulman (1987), Anderson (1989), Barnes (1989), Grossman, Wilson, and Shulman (1989), and Dill and associates (1990). This chapter summarizes the work of these scholars, describing the professional knowledge base that underlies both the beliefs and the behaviors of educators.

CATEGORIES OF KNOWLEDGE

Teacher knowledge guides teachers' behaviors and beliefs and, in turn, promotes comprehension among their students. Shulman (1987) describes seven categories of teacher knowledge:

- content knowledge
- general pedagogical knowledge
- curriculum knowledge
- pedagogical content knowledge
- knowledge of learners
- knowledge of educational contexts
- knowledge of educational ends.

In this chapter, we describe the first five categories, as they are most directly related to our topic. Related research is included, where applicable, to explain the categories further.

CONTENT KNOWLEDGE

Content knowledge is the "stuff" of a subject area discipline: factual information, organizing principles, and central concepts

that are integral to teaching. Teachers who are thoroughly grounded in the content knowledge of their discipline do not need to rely heavily on textbooks for knowledge. However, without this grounding, they may rely exclusively on the textbook as the source of knowledge in their classroom. This reliance assumes a valid representation of knowledge in the text. Unfortunately, without an adequate understanding of the concepts and content of a subject matter, teachers may be unable to critically appraise the adequacy, accuracy, and salience of the text.

Knowledge, or lack of knowledge about the content, can affect how teachers critique textbooks, how they select material to teach, how they structure their courses, and how they conduct instruction. The extent to which content knowledge permeates instruction is without limit, thus eminently important. Teaching content to others requires going beyond knowledge of facts or concepts of a domain. This in turn requires an understanding of the structures of the subject matter. These include both substantive and syntactic structures (Schwab, 1978).

Basic mastery of content knowledge is a condition for entry into the teaching profession. For example, issuance of an initial educator certificate in Connecticut is contingent on scoring acceptably on a test of subject-area knowledge. Professional development and teacher evaluation of experienced teachers in the area of teacher knowledge builds on the foundation of the basic subject matter mastery which the teacher brings into the profession.

GENERAL PEDAGOGICAL KNOWLEDGE

Pedagogical knowledge refers to teacher understanding of broad principles and strategies of classroom management and organization. These transcend subject matter. Pedagogy is the science and the art of how to teach, that is, the methodology and processes of instruction. The most crucial aspects of pedagogy are well documented in the research literature on effective teaching and include management, explanation, discussion, and all of the observable features of instruction.

Much of the current knowledge about pedagogy is derived from what Shulman calls "formal educational scholarship" (1987, p. 10). This body of literature is devoted to understanding the processes of schooling, teaching, and learning. It includes findings and methods of empirical research in the areas of teaching,

learning, human development, and the normative philosophical and ethical foundations of education.

Over the last 15 to 20 years, process-product research has produced an orderly knowledge base linking teacher behavior to student achievement. Process-product research is based on cause and effect relationships of teaching and learning. Researchers conceptualize teaching as an applied science, derived from research in human learning and behavior. Much of what exists in the process-product literature regarding pedagogical knowledge utilizes the findings of psychology, neurology, sociology, anthropology, and philosophy. Pedagogy is viewed as a synthesis of what is known about human learning in general. Pedagogical knowledge empowers teachers to make informed instructional decisions about content, learner behaviors, or teacher behaviors.

The general pedagogical knowledge base has been incorporated into a high inference instrument, the Connecticut Competency Instrument (CCI), for judging about the skill with which beginning teachers translate their knowledge of general pedagogy into classroom practice. We assume that experienced teachers, the focus of this book, all meet the standards of the CCI for translating the general pedagogical knowledge base into action. In the few cases where this might not be so, professional development would begin here. We see the teaching competencies specified in the CCI as among the essential first steps that must be mastered before a teacher can focus attention on the more complex issues of pedagogical content knowledge. The CCI appears in Appendix A.

CURRICULUM KNOWLEDGE

Shulman (1986) describes curriculum knowledge as "that particular grasp of the materials and programs that serve as 'tools of the trade' for teachers" (p.10). Curriculum is represented by the full range of programs designed for the teaching of particular subjects and topics at a given level, the variety of instructional materials available for those programs, and the characteristics that call for the use or non-use of particular curriculum or program materials in particular circumstances. Shulman calls the curriculum and its associated materials the *material medica* of pedagogy, the *pharmacopeia* from which the teacher draws those tools of teaching that present or exemplify particular content and remediate or evaluate the adequacy of student accomplishments.



PEDAGOGICAL CONTENT KNOWLEDGE

According to Shulman (1987), pedagogical content knowledge is that "special amalgam of content and pedagogy that is uniquely the province of teachers" (p. 8). It goes beyond knowledge of subject matter *per se* to subject matter knowledge for teaching. These include the most useful forms of ideas: the most powerful analogies, illustrations, examples, explanations, questions, and demonstrations — in a word, the ways of representing and formulating the subject that make it comprehensible to others. Since there is no single most powerful form of representation, the teacher must have at hand a repertoire of alternative representations, some of which derive from research and some of which originate in the wisdom of practice. A teacher's store of pedagogical content knowledge accumulates as he or she synthesizes knowledge from the other domains and experiments with using these syntheses in particular classrooms with particular children. Each act of teaching modifies pedagogical content knowledge. Pedagogical content knowledge is a living, organic thing, always changing in response to new information, new experiences, and new children.

Pedagogical content knowledge also includes an understanding of what makes the learning of specific topics easy or difficult. Additionally, it takes into account the conceptions and preconceptions that students of different ages and backgrounds bring with them to learning. Given those preconceptions and misconceptions, teachers need knowledge of strategies most likely to reorganize the learners' understanding, because learners are unlikely to appear before them as blank slates.

It is in this category of teacher knowledge that research on teaching and learning coincides. Student misconceptions and their influence on subsequent learning have been among the most fertile topics for cognitive research. Current research efforts target information about how best to create the instructional conditions necessary to overcome and transform those initial student (mis)conceptions. This research-based knowledge is an important component of the pedagogical understanding of subject matter; knowledge about research in the field of cognition should be at the heart of teachers' pedagogical content knowledge (Shulman, 1986).

Researchers have found that teaching involves the translation of subject matter knowledge *per se* into subject matter knowledge for teaching. It suggests that teachers weave their

prior knowledge of subjects with immediate knowledge of classroom realities to produce "action-relevant" knowledge (Calderhead and Miller, 1985). For example, elementary teachers preparing to teach about clouds will integrate their knowledge of cloud formations with their knowledge of what their students are interested in, what kind of community the students come from, what resources are available in their schools, and what topics have already been covered in the science curriculum. As a result of this process, teachers will then tailor their knowledge of content to the context in which they are currently teaching (Grossman, Wilson, and Shulman, 1989).

Pedagogical content knowledge allows teachers to do more than transmit information to students. It enables teachers to translate content into images that students can understand, internalize, and apply. The dynamic interplay that exists between teachers' subject matter knowledge and the knowledge that they hold about the science of teaching, when used appropriately, leads to more productive student performance (Peterson, Fennema, Carpenter, and Loef, 1989). Pedagogical content knowledge especially includes the ability to communicate or to structure learning activities so that students can understand and interrelate ideas. Content knowledge alone does not insure that students will learn. Nor does pedagogical knowledge without knowledge of subject matter insure student learning. It is the blending of these two types of knowledge that gives teachers the widest range of understandings with which to plan and implement effective instruction.

KNOWLEDGE OF LEARNERS

An important role for teachers is to promote student knowledge about the world and student capacity to use that knowledge for problem solving and creative efforts. In order to do so, teachers must understand learners and the ways learning progresses. In general, teachers draw on their own conceptions about learners and learning. These conceptions represent interconnected cognitive systems of knowledge and beliefs that influence perceptions and reasoning. These, in turn, guide decisions about teaching practice. The following synthesis is drawn from the work of Linda Anderson (1989).

Recent research and theory supports the view of learners as active, constructive problem solvers. Learning is a learner-mediated process. This means that learning occurs when the

learner acts upon incoming information, relates it to existing knowledge, and imposes organization and meaning on experience. Teachers who hold this view of learning are more likely to teach unconventionally than those who see learning as simply a function of the student receiving information. The former view of learning is called the cognitive-mediational view, as opposed to the latter, which is called the receptive-accrual view.

The cognitive-mediational view demands that teachers first consider students' knowledge, then examine students' capacity for self-regulation, motivation, and perceptions of task value. Inherent in all these considerations is the teachers' role in stimulating learners' cognitive processes. This emphasis on cognitive process enhances the likelihood that students will leave the lesson with new, meaningful, and usable knowledge.

In the receptive-accrual view of learning (the opposite of the cognitive-mediational perspective), learning and success in school are dependent on ability, intelligence, and effort. Teachers who hold this view attribute a child's failures to his or her inherent inadequacies, and to a logical conclusion that "some students can't learn and others won't learn." Many "common sense" notions of psychology reflect this receptive-accrual conception. It can lead teachers to place too much emphasis on the constructs of ability and effort, and to think of both as originating within the learner. From this perspective, the teacher's role is only to provide information, tasks, and perhaps incentives to perform those tasks, but not to insure that learning takes place, because that is outside of the teacher's power.

The belief system which we described in the last chapter is obviously aligned with the cognitive-mediational perspective and opposed to the receptive-accrual view of learning. We do not accept the consequences of the latter, which allow teachers to evade responsibility for student learning. We embrace the relatively new knowledge about student cognition as a powerful tool for ensuring that every student learns.

KNOWLEDGE IN ACTION

The undeniable implication of believing that "learning is a life-long responsibility" is that all teachers need to master the ever-expanding body of teacher knowledge. Knowledge must be the content of teachers' professional development programs.

Teachers should then evaluate their own performance on the basis of how well they transfer that knowledge to the service of desired student outcomes. Administrators and others whose responsibilities take them outside the classroom should evaluate their performance by the extent to which they make new knowledge accessible to teachers. In all cases, choices about where to expend limited time and money should be made with student outcomes clearly, but not rigidly, in mind. Learning for adults, as well as children and adolescents, is always delightfully serendipitous. Connections between new knowledge and day-to-day classroom life will unexpectedly and productively occur to every thoughtful teacher. Inquiry and reflection in even the most seemingly random fashion will lead somewhere. The essential thing is to retain an open mind and find time for contemplative moments.

We will say more about the relationship between teacher knowledge and teacher evaluation and professional development when we discuss reconceptualizing the teacher's responsibilities in the next chapter.

CONCLUSION

Teaching has a distinctive knowledge base. This knowledge base has been generated in research and broadened by tested practices of professionals. Moreover, it is expressed in articulated understandings, skills, and judgments which are professional in character and which distinguish more productive teachers from less productive ones. Teaching is not "pedestrian" in nature (Shulman, 1987). Simply because one is well educated does not mean that one can walk into the profession off the street.

Several summary statements can be made about teacher knowledge (Dill, 1990; Gardner, 1989):

- Teacher knowledge includes practical knowledge about how and when to act in teaching situations; that is, it combines propositional knowledge with conditional and procedural knowledge.
- Teacher knowledge is demonstrably related to improvement in student learning.
- Teacher knowledge will never be absolute or complete, but will grow and change as contexts

change and inquiry about teaching continues and improves. (Thus, teachers should be prepared for a career in which they are continuously appraising emerging knowledge and adapting their work in accordance with the changing knowledge base and within the context of their teaching situations.)

- Teacher knowledge takes a variety of forms and is drawn from many disciplines and sources including research, inventions, tested practice, and value principles held by the community.
- Teacher knowledge enables professionals to reflect and make informed decisions, judgments, and plans.
- Teacher knowledge enlarges the range and quality of discretionary judgments that teachers make in the performance of their complex work.

REFLECTIVE ACTIVITIES

1. How have you come to acquire your professional knowledge? What aspect of your professional life helps you to continue to enhance your knowledge base? In which of the categories of knowledge discussed in this chapter do you consider yourself most knowledgeable/informed? In which do you feel least knowledgeable? How might you strengthen your knowledge base in these areas?

2. Describe a lesson you recently taught, or are planning to teach, where you were particularly aware of using pedagogical content knowledge acquired through your years of experience. How did you know that your teaching strategies and presentation would assist students in understanding and making sense of the concepts embedded in the lesson objectives? How is your current pedagogical content knowledge different from that of your earlier years of teaching?

3. In your experience in selecting textbooks and other instructional materials, what professional knowledge is utilized and how? In the case where instructional materials and resources are limited (as they often are), on what professional knowledge do teachers rely?

4. Student motivation is a recurring theme in professional conversations. Experienced teachers often have opinions about

student motivation based on what they "know to be true". After either participating in or overhearing one of these conversations, identify the various beliefs embedded in the conversation, and try to figure out what professional knowledge helped to inform them.

V. TEACHER RESPONSIBILITIES

Teaching is a creative act requiring thoughtful, original, and imaginative syntheses of all categories of teacher knowledge. The quality of decisions a teacher makes in the service of specified student outcomes is a function of both the extent of the teacher's knowledge and the freedom he or she has to create and implement the representation of that knowledge. Furthermore, a teacher's degree of freedom to exercise thoughtfulness, imagination, and originality in drawing upon a knowledge base is a function of the school culture within which he or she works.

If one were to ask you what you "do" as a teacher, chances are you would build your answer around your responsibilities in the classroom with students. Certainly, this response includes an important dimension of a teacher's life. But the reconceptualized view of a teacher's role, as presented in the Professional Educator Development Model, addresses two other dimensions that are equally important to what it means to be a teacher. In addition to the **teaching** dimension, there are the dimensions of **learning** and **leading**. Together, these three dimensions embrace the myriad of behaviors that need to be present in the life of an excellent teacher.

Teaching refers to interactions with students, of course, but we also include in our definition of teaching two other phases: the planning that precedes classroom interaction with students, and the rethinking that occurs as the teacher considers what is happening or what has happened during a particular instance of interacting with students.

Learning refers to the teacher's career-long obligation to add to his or her knowledge base. Learning also refers to the teacher's obligation to experiment continuously with new ways of synthesizing knowledge to form new representations that help students learn.

Leading refers to the teacher's obligation to influence the culture of the school and profession in ways that support teaching and learning. Only the naive or the disengaged maintain that a

teacher can remain secure in his or her classroom, safe from influences of the wider school and community. Teachers must seek to influence the culture of their schools for their own enlightened self-interest.

For the sake of clarity and simplicity, we will elaborate on the three dimensions of a teacher's role without specific reference to student outcomes. However, we must re-emphasize that **student outcomes are the heart of the matter**. No person can be a teacher without having clearly in mind what the students will be able to know and do as the outcome of teaching.

As you consider the implications of our reconceptualization of the teacher's role, we ask you to keep in mind one of the underlying assumptions of this model: experienced teachers are thoughtful decisionmakers responsible for student learning. We speak directly to teachers in this chapter. Our goal is to deepen the insight with which we redo our own work, as we continuously ask ourselves how we can better lead our students to particular outcomes. The reason for the absence of distinction between professional development and teacher evaluation in this model becomes clear. Experienced teachers render judgments and determine the shape and scope of their development. Evaluation and professional development in this program are done **by** teachers, not **to** them.

TEACHING

Those of us who participate in or simply enjoy the beautiful music of a symphony orchestra know that the music we so appreciate does not happen as a result of any serendipitous coming together of talented musicians. Prior to and following every performance, there are hours upon hours of practice, during which the conductor pays particular attention to the individual sections of the orchestra—at one moment the woodwinds, at another moment the string section. The beautiful sound which so moves us, however, is realized only when the various parts come together.

So, too, teaching. We know that teaching well is a complex act that seems to defy simple, reductionist analysis. Yet, in order to study and better understand the whole, we must spend time looking at and thinking about the parts. Therefore, we have identified three phases in teaching: planning, interacting, and

reflecting. One might think of these as the different sections of an orchestra. Each phase has facets, or parts, about which we make teaching decisions. The ultimate art of teaching is being able to orchestrate the many parts in a manner that will result in student learning.

THE FIRST PHASE OF TEACHING: PLANNING

Quality planning increases chances for successful teaching. The old boast, "I've grown quite good at winging it," hardly evokes admiration. On the contrary, those of us who take teaching seriously know that each lesson must be preceded by thoughtful preparation. Hence, in our three-phase teaching cycle, planning is first. Planning is essential to successful teaching because it is during the planning phase that the teacher consciously makes choices from a store of knowledge.

Again for purposes of simplification, we break the whole of planning down into smaller parts and pose "planning questions" for each part. The parts represent the different components of a lesson which, when orchestrated well, produce optimal student learning. We acknowledge that in practice teaching is a complex, holistic activity that defies the arbitrary boundaries we set up. We suggest four lesson components for which we must plan:

- Content - the what of teaching.
- Instruction - the how of teaching.
- Management - the structure and organization of teaching.
- Assessment - the measure of the success of a particular instance of teaching.

Figure 2 on the next few pages contains planning questions for each part. Initially, you may wish to read through the questions, noting which you normally think about in the process of planning for a lesson, and which you have seldom, if ever, thought about. Some of the questions may be most significant when you are engaging in long-term planning, while others are significant for daily planning as well. Daily planning is likely to be primarily a mental activity, as you adjust the more elaborate long-range plan according to the results of a particular lesson, perhaps making a few annotations. The fact that daily planning does not require an answer to each of the questions in no way suggests that it is a less important activity than long-range planning.

Figure 2
Questions for Planning the Lesson

CONTENT	INSTRUCTION	MANAGEMENT	ASSESSMENT
• What do I want to teach today? • Why is this important learning for my students? • What are the critical attributes of this learning? • How does this new learning fit into the larger picture (weekly, unit, semester, year)? • What do I want students to do with this content? • What are the prerequisite skills and understandings? • Do students have these? • What are the conceptual relationships between current and prior learning?	• What teaching strategies best fit the chosen content? • What activities best fit the chosen content? • What materials best fit the chosen content? • What arrangements (collaborative, individual, competitive) best fit the chosen content? • How do I get students interested in the content? • How will I initiate this lesson? • How will I close this lesson? • How can I help my students assume responsibility for their own learning and the learning of others?	• Are there particular students in this class who require special arrangements such as grouping, materials, instructions, time, assistance? • Have I prepared all of the materials I will need to conduct this lesson? • Can I anticipate any behavioral problems? What will I do to prevent them? How will I deal with behavioral problems if they occur? • How do I make each of my students feel important?	• What techniques will I use to monitor that students are learning? • How will I know if students are learning what I want to teach? (What do I expect to see, hear, feel?) • Is my choice of methodology for checking understanding aligned with what I intend to teach and how I intend to teach it? • What techniques do I want to encourage students to use to assess their own learning? to assess the learning of others? • What are the various strategies I will use to cause students to demonstrate their learning? • How will I give feedback to students –individually, group?

Figure 2 (continued)

CONTENT	INSTRUCTION	MANAGEMENT	ASSESSMENT
• In this new learning, what are the opportunities for practicing old learnings? • Is the content I'm teaching today a skill, an attitude, an understanding, a combination of these? • What are the consequences for the above category in terms of my choice of teaching strategies? • What are the opportunities to integrate this content with other content? • What asides can I predict will emerge through student comments and how will I handle these asides? (What are the possible distractions?)	• What learning strategies can I teach my students so they can learn this content? • How do I make the conceptual relationships explicit? • How can I assist students in transferring learning strategies from one situation to another? • How can I capitalize on opportunities for practicing old learning? • What are the elements of the lesson? • In what order will I teach these lesson elements? • How will I tie the lesson elements together? • Is there any part of the learning that requires modeling on my part?	• How will I actively teach my students the rules and procedures for classroom activities and routines? • How will I reinforce appropriate behavior? • What can I do to reduce the time for routines and transitions, thereby maximizing instruction time?	• Can I provide an opportunity for students to evaluate their own work? Do they have the skills necessary? • What cues will indicate students are failing to understand? • What provisions have I made to incorporate higher-order questions into the lesson?

Figure 2 (continued)

CONTENT	INSTRUCTION	MANAGEMENT	ASSESSMENT
• Is the value in, reason for, teaching this content affective, cognitive, aesthetic, psychomotor, moral? • What are common student misunderstandings relative to this material and how can I prepare to address these? • In what ways might I push the topic beyond the bounds of the textbook? • Does this content allow me any opportunities to address particular students' interests?	• What directions will students need and how can I deliver these directions with precision and clarity? • How will I address various learning styles? • What provisions have I made for higher-order questions? • What opportunities can I provide for students to use various types of reasoning (i.e., inductive, deductive)?		

Daily planning keeps us in touch with our long-range plans and keeps us on track.

THE SECOND PHASE OF TEACHING: INTERACTING

In this section, we discuss that part of teaching in which we are actually with students in the classroom. Many people, particularly laypersons, think this is all there is to teaching. We, of course, know differently. Substantial preparation must precede interaction with students and serious reflection (which will be discussed next) must occur after the lesson. This continuous cycle feeds our individual stores of pedagogical content knowledge.

Just as the planning phase of teaching requires thinking and decisionmaking, so too does the interacting phase. The substantial difference between the two phases, however, is that the grist for our decisionmaking in the interacting phase comes from students themselves. Each response, or lack of response, from students as we implement our plan is data about which we must make a decision. Jackson(1986) describes an expert teacher's skill at making and acting upon such decisions:

Expert teachers "see more" than do nonexperts. They are alive to the latent pedagogical possibilities in the events they witness. Within a classroom setting, they anticipate what is going to happen. They can spot an inattentive student a mile off. They can detect signs of incipient difficulty. Their senses are fully tuned to what is going on around them.

Even the best of planning cannot prepare us for the eventualities that happen once the lesson begins. Therefore, we really do need to have our "senses fully tuned to what is going on around" us. Not only must we invest energy in carrying out our planning decisions, but we must also be ready for the hundreds of on-the-spot decisions that have to be made and for which we could not have planned in advance. The ability to make sound decisions while in the act of teaching is one hallmark of an excellent teacher. And, of course, the deeper and broader our knowledge base, the greater the likelihood of our making sound decisions.

To make the contextually bound, on-the-spot decisions that we do every day, we have to find a way to stop the action, so to speak. We need to identify some guidelines to help us evaluate the quality of our decisions while we are interacting with our students.

It is not possible, of course, to get inside the head of a teacher while he or she is teaching, but it is very possible to watch his or her actions while teaching and then later discuss the results of the decisionmaking that occurred during the lesson. To allow for such later discussion, it is useful to record the action so it can be revisited later. An observer can script our classes either verbatim or selectively as agreed upon. Or perhaps we might choose to videotape our classes. And, too, we might write down descriptions of important interactions from short term memory, if time to do this can be found shortly after the class ends.

Once the lesson has been recorded, it must be analyzed. There are several ways to analyze the record you or another person has made of your teaching. You can do it alone or in conversation with others. Conversation with others can add a richness to your analysis that you will not achieve by doing it alone. On the other hand, analyzing alone is far better than not analyzing at all, and there are times when we simply want to contemplate our work in solitude.

In addition to deciding how you will conduct the analysis—alone or with a colleague—you will also need to decide the focus of your analysis. As mentioned earlier, the CCI (see Appendix A) provides a statement of classroom standards for beginning teachers. It organizes levels of beginning teacher competency around 10 important indicators of effective teaching. All teachers can use it, however, as a starting point for talking about in-class decisionmaking. Hundreds of experienced educators who have been trained in applying the CCI have attested to its usefulness as a vehicle for discussing teaching. You may have noted that many of the planning questions listed earlier are aligned with the indicators of the instrument.

Another analysis framework for your teaching could be the series of teaching competencies validated by experienced teachers in Connecticut (Covino, 1991; see Appendix B). To some extent, these competencies overlap CCI but go beyond them in many respects. For example, the experienced teacher competencies address some of the more intangible and complex, but nonetheless critical aspects of teaching such as high interest lessons, adaptation to students' learning styles, effective student motivation, and provision of problem-solving opportunities. Analyzing your teaching through a frame of competencies such as these will surely stimulate your thinking.

Whether we choose the CCI, experienced teacher competencies, or another framework that better suits the lesson taught, the goal of the analysis is to re-establish the mind-set we had at the moment of a particular instructional decision so that we can reconsider that decision at our leisure. You will note that this level of analysis pushes us beyond simply identifying what we did or did not do in the lesson. It pushes us to become reflective to the degree that we are able to get in touch with the thinking that led us to a particular behavior.

THE THIRD PHASE OF TEACHING: REFLECTING

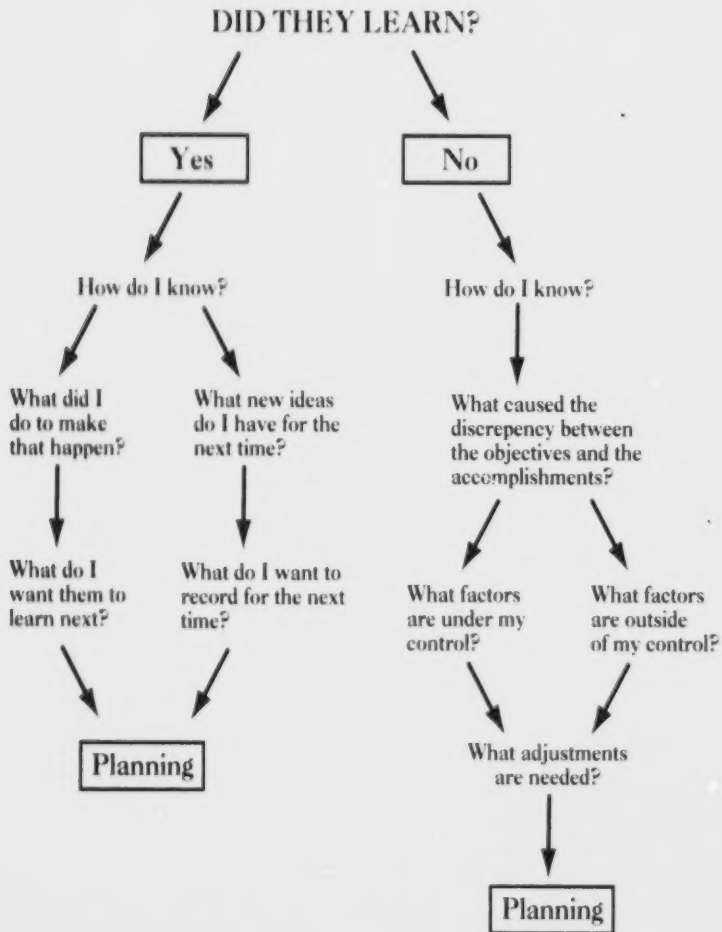
Reflecting is the third phase of teaching. Obviously, reflection is also part of planning and interacting with students. But, at this point, the goal of thinking has a dual nature. It is both retrospective and prospective. You want to evaluate the success of the decisions you made both prior to and during the lesson in order to learn from the experience and use this new learning to prepare for what is to come.

Whereas reflecting is the last phase in the three-phase sequence, in real-life teaching, as we well know, we are reflecting all of the time. For example, as you analyze a record of your teaching, dozens of ideas are going to occur to you. Similarly, while you are actually teaching, a student may say or do something that sparks an idea about how you could do this particular lesson differently next time. You may be sitting in the lunchroom and overhear a colleague's chance remark which sparks another idea. Or you may be observing a colleague teach and see or hear something that causes you to think of your own teaching and how you might make a lesson better. All of these are examples of reflection. At this very moment you probably have other examples in mind.

In addition to this informal reflection about teaching, which goes on continuously, sometimes without any formal effort on our part, teachers also need to reflect in a formal way. We need to set aside time to evaluate every plan as we conclude its implementation. As we did in the planning section, so too in this section we will offer questions to assist in this task (See Figure 3). As before, you can pose these questions to yourself or converse about them with a colleague. The decision tree ends by cycling back into planning. In real life, rethinking and planning often occur simultaneously.

Figure 3

Questions For Reflecting on Teaching



The pivotal question is, "Did my students learn?" The answer to this question raises the issue of student outcomes yet again; obviously we must know what it is that we wanted our students to learn before we can answer the question. Reconsidering what was to be learned in light of information about what happened during the lesson is essential for meaningful reflection.

In addition to both spontaneous informal rethinking and more formal end-of-unit rethinking, we also recommend a middle sort of rethinking. This kind of rethinking occurs daily during spare moments such as when we are driving home or assembling materials for the next class. We ask ourselves the pivotal question from the decision tree, "Did my students learn what I had in mind today? And, whatever the answer, the follow-up question is, "So what will I do tomorrow?" Sometimes we write the answers to these questions down, particularly the second one. Other times we just continue with a mental checklist of everything that must be in place for tomorrow's plan to happen. The key is not to let tomorrow happen accidentally, but rather to have given it thoughtful consideration. Learners need teachers whose mastery of their craft goes far beyond repetition and routine.

LEARNING

A teacher's competency and effectiveness can not be judged solely by years of practice and time spent in direct contact with students. The depth and breadth of a teacher's knowledge base at the time of entry into the profession simply will not suffice for a career of two or more decades in length. The needs of students are too complex and too varied, the best learning situations too specialized, and the human condition too changeable to expect that teachers can assist all students to learn without continuously learning themselves.

Therefore, the second dimension of a teacher's role is learning. Learning is an essential professional responsibility that enables us to perform our jobs in a highly competent and effective manner. It is the belief that "learning is a life-long responsibility" in action. Learning is a mind-set that exemplifies the attitudes and attributes of an educated person. As ones who strive to model such attitudes and attributes, we must be persistent in our pursuit of knowledge about the world in which we live. And, too, we must be equally persistent in our pursuit of knowledge about

teaching. This requires us to constantly enrich our personal knowledge base about content, learners, and pedagogy. With this enriched knowledge base, we will be better able to make informed decisions about how best to teach content to our students. In short, we commit ourselves to remaining students of teaching while at the same time serving as teachers of students.

But what does it mean to be a student of teaching? Henderson (1990) suggests:

To be empowered as a student of teaching means that you work with your past experience in order to realize your current best intentions. This is a complex type of learning that requires balancing the personal qualities of humility, honesty and courage with a far-reaching, self-renewing and politically aware vision of professional excellence (p. 110).

The Professional Educator Development Model calls upon you to tap into your present reserves of humility, honesty, and courage. You will be pushed to analyze and think critically about what you do and how you do it, to identify your strengths as well as your weaknesses, and then to decide how you might, in the true sense of professional community, act in ways that will cause you to grow as a teacher.

To experience such growth also requires that we do not offer excuses for not growing.

Unable to find solace in criticizing others, outstanding teachers recognize their fundamental obligation—to teach each student as effectively as possible. And no matter how many times they fail, or how many times they become discouraged and want to give up, they persevere. This tenacity, the willingness to strive for excellence and not give up, is the hallmark of the master teacher (Mertz, no date).

The National Board for Professional Teaching Standards (1989) states:

Proficient teachers, then, are models of educated persons. Character and competence contribute equally to their educative manner. They exemplify the virtues they seek to impart to students: curiosity and a love of learning; tolerance and openmindedness; fairness and justice; appreciation of our cultural and intellec-

tual heritages; respect for human diversity and dignity; and such intellectual capacities as careful reasoning, the ability to take multiple perspectives, to question received wisdom, to be creative, to take risks, and to adopt an experimental and problem-solving orientation (p. 26).

There is no question that teachers need to be life-long learners. The pivotal questions when considering the relationship between teacher learning and teacher evaluation and professional development are what and how do teachers learn? We direct your attention back to the chapter on teacher knowledge and suggest that teachers always can learn more in each of the five categories: content knowledge, general pedagogical knowledge, curriculum knowledge, pedagogical content knowledge, and knowledge of learners. Within these categories, teachers will select according to their own interests, their students' interests, and their needs as defined by their assessment of their students' learning.

How to learn is somewhat an individual matter. Just as students have learning-style preferences, so do teachers. Furthermore, some new areas of knowledge are most accessible in one way; others in different ways. Over time, however, it is likely that each teacher will spend periods of time in formal study and many other periods of time learning informally from the people, events, and materials more closely at hand. Then, this new learning must eventually be transferred to teaching. This transfer will be direct and obvious in some cases, and indirect and not apparent until well after the fact in other cases. In each case, however, it will involve trying something new; in the words of National Board for Professional Teaching Standards, it will involve being creative in the classroom, taking risks, questioning received wisdom, and adopting an experimental, problem-solving orientation.

LEADING

School reform and restructuring efforts are calling for a new definition of leading. Whereas only a very few of us can hold formal positions of leadership in our schools and districts, each of us has responsibility for exercising leadership through other channels. Each of us has a responsibility to contribute to our colleagues' growth and to the knowledge base of the profession through sharing what we have learned. Each of us has a responsi-

bility to help shape and sustain a school culture that fosters the growth of all who are part of that culture.

Leading, then, must become an integral part of a teacher's work. As with learning, leading cannot be viewed as a job add-on, but as an essential responsibility each teacher assumes by finding ways of making one's teaching skills, knowledge, and insights available to others. The needs of students, colleagues, and the school are too complex and varied for any one person or group to fulfill. They require the diverse approaches and viewpoints and the collective experiences and skills of everyone collaborating together.

Again we concur with the work of the National Board for Professional Teaching Standards, which has described the leadership dimension of teacher responsibilities. Teachers must assume more proactive and creative roles in the analysis and construction of curriculum, the coordination of instruction, the professional development of staff, and in many other school-site policy decisions fundamental to the creation of highly productive learning communities. Teachers as leaders must attend to issues of continuity and equity of learning experiences for students by encouraging schoolwide collaboration across the boundaries of academic tracks, grade levels, special and regular instruction, and disciplines. Such boundaries, constructed as much out of traditional patterns of school organization as out of instructional rationales, are often dysfunctional and damaging to student learning. Therefore, teachers as leaders cultivate a critical spirit in appraising such practices. They can work with administrators in making schoolwide improvements in school organization as well as instruction. (National Board for Professional Teaching Standards).

Just as the dimension of learning brought alive the belief that, "Teachers have a life-long responsibility for learning," leading brings alive the belief that, "There is power of collaboration." As teacher leaders, we freely offer our knowledge and experience to colleagues. Additionally, we actively seek out and welcome offers of knowledge and experience from others, always assessing new information for its applicability within the context of our own school community. We accept responsibility for events outside our classrooms, be it an unexplained noise which needs investigating or widespread dissatisfaction with the third grade reading program. We do not wait for administrators to ask for input on any issue we regard to be significant to teaching and

learning in our school, but rather we offer counsel readily and constructively. As teacher leaders, we know that we are members of a school community who together can achieve more than any one person alone.

CONCLUSION

We have reconceptualized teacher responsibilities, broadening them to include not only teaching, but also the dimensions of leading and learning. Furthermore, we separated teaching into three parts, giving equal weight to planning, interacting with students, and reflecting. Conceived in this way, teaching is a complex activity demanding intelligence, initiative, and creativity from its practitioners. It also requires that other educators, policymakers, and the general public entrust these practitioners with wide freedom of action. We believe any narrower definition of the role restricts what should be the high expectations of teachers' work. If we regard teaching as a technical activity in which teachers deliver unaltered knowledge as though they were only conduits, we cannot hold teachers accountable for the results. If, on the other hand, we say to teachers, "Bring all your best talents to bear on this problem of leading students to specific outcomes," we have reason to hope.

What are the responsibilities of those of us who are not classroom teachers? In the next chapter, we turn to the issue of creating a culture that facilitates teachers' work, and the responsibilities that administrators have to work in support of teachers.

REFLECTIVE ACTIVITIES

Activities are presented below for each of the three teacher roles discussed in this chapter.

TEACHING

Self-appraisal is the heart of evaluation and professional development for experienced teachers. We know all teachers thoughtfully consider the lessons they are about to teach, re-teach, or have just taught. Here we suggest some activities for planning future lessons.

1. What are the student outcomes you intend from the units you now teach? What plans do you have to determine whether your students can do or know the outcomes you intend?
2. Ask a colleague to read some of your existing lesson plans and discuss their intended outcomes with you.
3. Get together with a colleague who teaches similar subjects and/or levels and compare and contrast what each of you thinks are the outcomes for a particular unit or lesson.
4. Examine what you have asked students to produce during a particular unit. Do student products reflect your intended outcomes?
5. Write a new lesson plan as a result of asking yourself the planning questions in this section.
6. Pull out an old plan and evaluate it using the questions in this section. Revise the plan as ideas come to you.
7. Take either a new or old plan to a colleague and talk it through with him or her using the questions in this section as a guide.
8. Either alone or in conjunction with colleagues, map out a long-range timeline to redo plans for a particular subject or course, and arrange with your principal or supervisor to use some specific in-district professional development time for this purpose.

LEARNING

We direct the reader back to the underlying assumptions of this model for teacher evaluation and professional development. Among these assumptions were that teachers have responsibilities extending beyond the immediate classroom, they possess an ever-expanding repertoire of skills and experiences, and they engage in career-long reflection about their practice. We have used these three underlying assumptions to frame our suggested activities for the learning dimension of teaching. We intend the following questions to stimulate both private thoughts and lively conversation among colleagues.

As a responsible learner:

1. How do I broaden and refine my repertoire of skills and knowledge?

2. How do I develop my ability to reflect on my performance within the classroom and the larger environment?

3. How do I participate in leadership and shared decision-making opportunities to further my individual growth and the growth and success of my students, colleagues and schools?

4. How do I initiate the development of my own growth plans and activities to advance my professional career?

As a learner expanding my repertoire of skills, knowledge, and experience:

5. How do I use the professional growth cycle of my district's teacher evaluation plan to develop a plan to enhance my skills and knowledge?

6. Do I participate in peer coaching opportunities available to me in my school? If no such opportunities are available at this time, what can I do to initiate them?

7. How do I collaborate with my colleagues to solve common instructional problems and to introduce new teaching techniques or subject area content?

8. How do I individually or collaboratively conduct research on teaching, learning, and content development such as cooperative learning, multi-cultural education, etc.?

9. Do I make inter- and intra-district visits to add to my professional repertoire?

10. What professional journals do I read on a regular basis?

11. To what professional organizations do I belong? In which am I an active participant?

12. In what workshops, conferences, institutes have I participated within the past year?

13. When did I last take a college/university course? How did what I learned in that course influence my teaching?

As a reflective learner:

14. How do I make use of my district's teacher evaluation plan to gain specific feedback on ways to improve my teaching?

15. Do I ask my colleagues to observe and critique my performance?

16. Do I audio- or videotape my lessons and analyze them alone or with a colleague(s)?

17. Do I seek student and parent feedback to improve my performance?

18. Do I periodically review my lesson and unit plans for areas to improve?

19. Do I maintain and periodically review my students' progress records and portfolios to gain insights into how I may improve my performance?

LEADING

In this section we again use our underlying assumptions—extra-classroom responsibility, an expanding repertoire of knowledge, skill, and experience, and career-long reflection on practice—to frame a series of questions designed to provoke private thought and lively conversation about the leading dimension of teaching.

1. How do I model the attitudes and attributes of an educated person?

2. How do I help all children to achieve, regardless of social, physical, racial, ethnic, gender, or economic circumstances, and individually and collaboratively identify and provide the types of programs that will help them succeed?

3. What ways have I found to work collaboratively and creatively with parents, engaging them productively in the work of the school?

4. How have I contributed to my school's effectiveness by working collaboratively with other professionals on policy, curriculum, and professional development?

5. How have I participated in leadership and shared decisionmaking opportunities to further my growth and the growth of my students, colleagues, and school?

6. What steps have I taken to refine and extend my teaching skills and content knowledge so that I can be a resource to my colleagues and school?

7. What steps have I taken to refine and extend my observation and feedback skills so that I can better coach my colleagues?

8. What steps have I taken to refine my interpersonal and communication skills so that I can increase the collaboration and productivity of our teaming efforts?

9. How do I work to enhance my research, analysis, and evaluation skills to be a more productive problem-solver for my school?

10. How do I use my own teaching skills and knowledge to support other teachers in their teaching?

11. In what ways do I make my own innovations and insights accessible to other teachers?

12. In what ways do I support efforts to improve curriculum, instruction, and the school environment?

13. To what degree do I make a contribution to the profession as a whole through such channels as mentoring, peer coaching, presenting workshops, participating on state committees and in state professional organizations?

14. In what ways do I seek out/contribute to support groups and networks?

15. In what ways do I help my school community establish and articulate our vision and purpose?

16. In what ways do I use community resources for the benefit of my students?

VI. SCHOOL CULTURE AND THE ADMINISTRATOR ROLE

Every workplace has implicit and explicit rules and norms about people's behavior. There is a system of informal rules, prevailing norms, and basic assumptions and beliefs that underlie how people act, react, perceive, and think. This is what we call the culture of the organization. This chapter describes an enabling culture in schools. By "enabling" culture, we mean a system of informal rules, prevailing norms, and basic assumptions and beliefs that encourage teachers' intellectual and psychic growth. In other words, we describe a culture that nourishes the whole teacher. This is analogous to our expectation that teachers will nourish the whole child.

We believe that the responsibilities of administrators in the service of teaching and learning are inextricably bound to the culture of the school in which they work. School culture and administrator responsibilities exist in a synergistic relationship. Whereas, in other chapters we have forced apart topics that materially relate to one another, in this case we found that separating them robbed each of its fullest meaning. So we discuss an enabling culture and administrator responsibilities together.

AN ENABLING SCHOOL CULTURE

An enabling school culture encourages the development of teachers as true professionals, but beyond that, what is it that happens to teachers working in such an environment? The answer has been written about in great detail in the preceding chapters about the beliefs that undergird our profession, the outcomes we desire for students, and the dimensions of the teacher's role. In an enabling school culture, teachers are the very best teachers, leaders, and learners that they can be. They have a large arena for independent action. Furthermore, the beliefs undergirding the teaching profession are lived out explicitly day

to day in each individual interaction and decision. Teachers are educated citizens who model the outcomes we expect from students at the same time that they lead students to them.

Many of us, at one time or another, have encountered nested toys. These multi-colored cylinders fit perfectly into one another and can also be used to construct the most startling tower if set one on top of the other in exact sequence. Each cylinder is an exact replica of the one preceding and succeeding it, varying only in size and color. The nested cylinders are an illustrative metaphor for relationships among the cultures of the classroom, school, and ultimately the district. The beliefs and values we expect to operate within the smallest cylinder must also operate in the next largest and so on. If we expect that all children can and must learn, then also we must expect that all teachers can and must learn, and that all administrators can and must learn. If we expect students to develop into independent learners and to set independent, realistic goals, then so, too, must we hold that expectation for teachers and administrators. If we expect students to work cooperatively and assist one another in learning, so, too must we expect teachers and administrators to work cooperatively and assist one another. If we believe that celebrating student success is an effective way to support the development of desired attitudes and attributes, understandings, and skills, then too we must celebrate the success of all adults in the district.

For understandable reasons, as schools evolved from one-room structures to the complex organizations they are today, they evolved into classic hierarchical bureaucracies in which administrators formally and tightly controlled the actions of teachers. Teacher unions were formed in response, often resulting in the classic adversarial labor-management relationship between teachers and administrators. We believe such a relationship is the epitome of constraining cultures.

Although there are many individual teachers and administrators who do not fit the stereotypical picture we have just described, nonetheless constraining cultures are the rule. The dissonance between the facilitative relationship we expect between teachers and students, and the controlling relationship that exists between most teachers and administrators in traditional bureaucratic schools must end. Teachers cannot act one way while being treated another.

CHARACTERISTICS OF AN ENABLING CULTURE

Enabling cultures are those in which a common mission has been collaboratively identified. This mission is attainable by productive people who are satisfied with their work and who believe they are contributing to an important effort. Many factors contribute to the creation of such a workplace.

The probability of this sort of culture forming is increased when there is a sense of community, when it is understood that individual contributions add to the collective wisdom, and when everyone recognizes others' contributions to the overall richness of the school. Well-intentioned efforts that result in mistakes and errors in judgment can be made and shared with others safely; risk-taking is encouraged and failure is respected as a necessary ingredient of success. People listen to one another. There are high expectations for everyone and an understanding that accurate, specific feedback will be exchanged freely among everyone regardless of role. Each individual feels that the community cares about him or her in a professional and personal way. Differences in background, needs, interests, learning, and teaching styles are acknowledged, honored, and encouraged. Everyone recognizes the genuine worth of a multiplicity and diversity of perspectives. This includes sensitivity to differences across the various stages of teacher development which are embedded in the larger ebb and flow of an individual's life.

There are two factors that contribute to an enabling school culture by virtue of their absence rather than their presence: pressures caused by too little time and too many students. Again, we know that, historically, schools have organized teachers' time as if they were factory workers. The goal is to maximize time working at the conveyor belt and to get the maximum number of units off the belt at minimum cost. In this model, teachers are with children all day long, with no time to talk to each other or to reflect upon their work. These conditions work against creativity and collaboration. Imaginative, exciting teaching requires time for ideas to germinate and for lessons to be prepared. Such teaching can only come to life in classrooms where the teacher has few enough students so that he or she can touch them all.

To build an enabling school culture we must confront the conditions of having too many children in many of our classrooms and too little time for the work that must be done away from direct contact with students. Note the use of the word "we." Cultures are shaped by the people who comprise a particular

group. School cultures are shaped by teachers, administrators, and students who comprise each school community. Each of us has a responsibility to purposefully shape the culture in the interest of teaching and learning.

THE ROLE OF THE ADMINISTRATOR

As our example makes evident, in an enabling culture responsibility for maintaining the culture is everyone's. In this sense, we are our colleague's keeper. We ask for what we need. We speak up when we have an idea or opinion. We listen to a colleague who wishes to use our ear. We participate in the events of the school community. We do countless small deeds of kindness and support for one another. We deliver tough messages accurately and compassionately when the occasion demands it. We accept full responsibility for the success of our school. We understand that there is no contradiction in owning responsibility for shaping and maintaining an enabling school culture and knowing that one's efforts alone cannot bring it about.

However, the first responsibility for developing an enabling school culture must be the administrators'. Given our history as an organization and a profession, it is naive to expect teachers, who are accustomed to being told, and whose questions and opinions have been unwelcome, to take the first step. Even the most competent and confident of teacher leaders can go only so far without the support of a key administrator.

Teachers and administrators who understand that moving away from a traditional, constraining culture toward a transformed, enabling one holds potential for both their own professional enrichment and their students' learning may not have all the requisite skills. It matters not whether one has always been expected to listen to the solution, or whether one has been expected to pronounce the solution. In either case, the move from a constraining culture to an enabling one calls for new, unfamiliar behaviors.

What should an administrator who wants to take that risky first step do? Ideally there will be a few other people, some fellow administrators and some teachers who understand what the initiating administrator wants to accomplish. Together, they must work out a plan to teach and model the new behaviors needed to transform a constraining culture into an enabling one.

Perhaps a committee can be convened to focus on a particular issue. The committee's charge would be to introduce professional development activities that foster community-building skills such as listening, collaboration, or group leadership. Simultaneously, the initiating administrator must employ the characteristics of an enabling culture in every daily interaction with teachers, students, and community. In other words, he or she must become a model for teachers in a manner parallel to the model of an educated citizen which teachers portray for students. If the initiator is a building administrator, he or she must have the genuine understanding and support of the superintendent. The superintendent, in turn, must ensure that relationships between the school and other central office staff facilitate, not inhibit, the new behaviors the building administrator is encouraging.

Without a doubt, there will be teachers who prefer the isolation and limited responsibility of the traditional role. They will mistrust and resist learning new behaviors. Other teachers who understand and welcome the initiative to change their school's culture must become active leaders. They must transfer the new behaviors they learn to their classrooms and to their interactions with colleagues. They must speak up when they hear inevitable doubting and complaining. In the beginning, the administrator and those teachers who understand why the new behaviors are important must take care of one another, especially since their numbers may be quite small and others may be openly critical of their collaborative work. In time, however, the characteristics of an enabling culture and the opportunities which they open up, will be their own best advertisement. Hard core resisters will become the isolates; everyone else will set the tone.

In addition to their responsibilities for nurturing an enabling school culture, administrators also have responsibilities to individual teachers. Just as we have suggested that teachers pose questions to themselves to guide their thinking about student learning, so too we suggest that administrators keep several guiding questions in mind as they think about individual teachers. How can I best assist this teacher as learner? What leadership opportunities do I see in the school, department, or grade level that I might encourage that teacher to assume? What did I see the last time I was in a particular classroom that can serve as a basis for supporting that teacher's teaching?

Finally, we want to emphasize the mutuality of exchanges between teachers and administrators in an enabling culture.

Although their roles are very different—with teachers focusing intensely on student outcomes, and administrators focusing intensely on supporting teachers as learners, leaders, and teachers—nonetheless each group has a professional responsibility for the other. Administrators are familiar with this assertion, even though we have shifted emphasis away from the traditional task of judging teacher performance to assisting teachers in realizing the responsibilities and dimensions of their role. The idea that teachers have responsibility for administrators may seem quite unfamiliar.

Collaboration flourishes only in environments where candid information flows freely in all directions. Teachers must tell administrators when their assistance has been helpful, and point them in directions that will make it more helpful. In general, the more information administrators have about the specifics of teacher work, the more effective their efforts on behalf of teachers. In return, administrators must listen with an open mind and respond. In such a culture, trust between both groups will be strong enough to sustain relationships during inevitable times of difficulty. Teachers will find an ally in the office, and administrators will find that the job needs not be quite so lonely after all.

PORTRAIT OF AN ENABLING SCHOOL CULTURE

The particular form that a given school takes as it evolves into an enabling culture will be unique to that school. What will be common across schools as more and more of them reshape their cultures will be an unshakable commitment to enacting the beliefs and values of our profession and to achieving specific student outcomes. We illustrate here only one of the limitless ways in which beliefs come to life in an enabling school culture.

The first belief, that all children can learn, is the starting point for an enabling culture. It is the responsibility of educators to identify and provide the programs that will help children succeed at learning. Seeing the ramifications of this belief is a little like peeling back layers of an onion. Given the many ways children differ from each other, not far from the surface, teachers must determine the manner in which individual student learning can be facilitated and create circumstances under which learning is likely to occur. While there may be a common mid-term, unit, or final examination, how each student masters the knowledge

and skills embodied in the exam will differ according to the teacher's assessment of his or her learning needs and the provisions made to meet those needs.

Now, if the teacher is to create optimum circumstances for individual learning, several other factors come into play. These include the teacher's capacity to determine individual learning needs in the first place and the resources at hand to support the process. Both of these factors are related to the enabling culture of the school.

In order to determine individual student needs, the teacher must come to know students on an individual basis and in a variety of ways. Let us assume that the teacher has an optimum number of students to make this possible. Then another major requirement is on-going, systemwide, student-oriented communication among the faculty at all levels.

To facilitate this communication at the individual classroom level, we need to ask whether teachers have input into the grouping of students for instructional purposes. At the unit or departmental level, we need to know if the schedule is designed to foster regular contact between and among grade level and subject matter colleagues. On a schoolwide basis, there must be regular staff meetings and inter-departmental gatherings during which staff members can converse with one another about matters of teaching and student learning. At the district level, there must be articulation of curriculum among schools and allowance for professional discussion about individual students as they transfer from one building to another.

If you have all these in your district, it would seem that the prevailing norm is one that facilitates communication. The logistics have been worked out: teachers get together regularly; guidance counselors are accessible, faculty and unit meetings that focus on matters of teaching and student learning are held regularly; student records and work sample portfolios are transferred in a timely manner when students move from one school to another.

Let's peel back another layer of the onion. We said that this student-oriented communication was not only facilitated within an enabling culture; it was expected. That is, teachers maximize use of meeting time by preparing to take an active role; they expect that both they and their colleagues will speak candidly, inquisitively, and trustingly about any topic. They expect that

disagreements and different opinions will surface frequently, but they also expect that the group will work through them in a constructive fashion to reach a decision they can all support. They know that the outcome of such active group participation will be deeper insight and higher quality decisionmaking for the benefit of students.

To peel the onion back yet further, this expectation about ongoing communication extends beyond formal meetings and into the informal work setting. The prevailing norm in an enabling culture dictates that teachers make informal connections and initiate professional conversation outside those meetings.

If this description sounds like your school or district, the chances are that the prevailing norm dictates serious attention to the three dimensions of the teacher's role: teaching, leading, and learning. Your informal rules maintain multiple and open communication channels. For example, teachers might gather on their own initiative during common planning time to assist one another to interpret and apply standardized test scores to appropriate classroom or individual student programs. A formal communication channel might include professional development activities on peer coaching. This would be grounded in the belief that teachers who regularly observe and coach each other will talk about teaching and learning more frequently and more deeply.

If you re-read the characteristics of an enabling culture, you will see many specific examples of those characteristics coming alive. For example, did you notice that free blocks of time are scheduled to make communication possible? Did you notice that teachers regularly observe one another, implying that they give accurate and specific feedback to one another as a matter of course? Did you notice that teachers initiate conversation about students' test results, thereby exercising leadership on behalf of certain student outcomes across a grade level? You can undoubtedly find other specific examples of how this illustration demonstrates various characteristics of an enabling culture. You have also probably begun to think about which characteristics of an enabling culture are thriving in your own situation.

THE ENABLING CULTURE IN ACTION

The implications of an enabling school culture which nourishes and supports teachers' work and leads to desired student outcomes fall most directly on administrators. "Good organizations don't just measure your competence; they teach you to be more competent" (Manatt, 1988, p. 82). Administrators must become, among other things, teachers of teachers. We believe this teaching is the most important administrator responsibility administrators have, and we devote this section to describing just how this responsibility can be discharged.

We need very little reconceptualization to specify a framework for administrators to use in supporting the work of teachers. Rather, the relationship between administrators and teachers parallels the relationship between teachers and students. The same belief system that governs the work of teachers also governs the work of administrators. Just as teachers' responsibilities encompass three dimensions of teaching, leading, and learning, so do the responsibilities of administrators. Just as effective teachers must draw on an extensive knowledge base, so too must administrators. In the following sections, we elaborate on parallels between the role of teacher and the role of administrator.

BELIEFS

1. All teachers can and want to learn more about teaching and learning. It is the responsibility of administrators to facilitate teacher learning.

2. Administrators can make a difference in the teachers' working environment. It is their responsibility to continue to learn, always with an eye to how to apply their knowledge in support of teaching. It is their responsibility to teach, using demonstration lessons or team teaching, for example, to enhance teachers' knowledge and skill. It is their responsibility to arrange such things as schedules, materials, space, meetings, observations, in fact, all administrative parameters, in such a way as to facilitate teachers' work. The guiding question for administrator decisionmaking must be how will this action assist teachers in helping students achieve desired outcomes?

3. Development in administration requires inquiry and reflection. Just as teachers need to create opportunities to draw

meaning out of particular experiences, so must administrators. Administrators must examine their work asking the same pivotal question, "How successful am I in assisting teachers to lead students to specific outcomes?"

4. Administrators too are models of educated citizens. They too have a positive sense of self, function with motivation and persistence guided by a set of values, exhibit a sense of responsibility toward themselves and others, possess integrated understandings across disciplines, and make their store of knowledge available to teachers.

5. Administrators are life-long learners. Learning is a life-long responsibility that is often exhibited through a questioning attitude, open-mindedness, curiosity, an eagerness to experiment, a willingness to take risks, and searching for answers to self-designed questions. Administrators must be life-long learners to ensure their continued professional development. In this way, they guarantee that the work of teachers remains informed by scholarship and experience.

6. There is power in collaboration. Together, we know more than any one of us knows individually. Thus, administrators, as well as teachers, have an obligation to offer and to seek knowledge, wisdom, and counsel to and from colleagues. Administrators must understand that collaboration among adults results in greater productivity and expertise, more positive interpersonal relationships and cohesion, increased support within the faculty, and enhanced self-esteem (Johnson, Johnson, and Halubec 1990). Administrators must also recognize that authentic collaboration requires a genuine respect for teachers as colleagues whose work is fundamental to education in a way that administrators' is not. Authentic collaboration with teachers requires abandonment of the historical superordinate-subordinate relationship, and establishment of a new relationship with experienced teachers grounded in mutual respect for the value of different, but equal roles.

TEACHING

Teaching is the most overlooked dimension of an administrator's responsibilities. We define administrators' teaching as a responsibility to support teachers' growth in all dimensions of their role: teaching, leading, learning. They provide this support

through formal and informal professional development and evaluation practices that respect teachers as autonomous decisionmakers who have the learning of students at the center of their work.

LEADING

Leading is the dimension of the administrative role that most often comes to mind. The leadership responsibilities held by different types of administrators and policymakers clearly vary with individual roles. We focus here on the principal's leadership responsibilities because he or she is most immediately in contact with teachers.

The Association of Supervision and Curriculum Development has codified the leadership dimension of a principal's responsibilities in a way that is well aligned with our assumptions and beliefs. According to Smith and Andrews (1989), effective principals:

1. create a climate of high expectations in the school, characterized by respect for teachers, students, parents, and community;
2. demonstrate commitment to academic goals, shown by the ability to develop and articulate a clear vision of long-term goals for the school which are consistent with district goals and priorities;
3. monitor continually student progress toward school achievement and teacher effectiveness in meeting those goals;
4. are directly involved in instructional policy by communicating with teachers, supporting and participating in staff development activities, establishing teaching incentives for the use of new instructional strategies, and displaying knowledge of district curricula;
5. consult with others in decisionmaking processes which genuinely encourage teachers to exchange ideas, build coalitions involving all constituent groups which support the operation of the school, and create a norm of constructive criticism which encourages inquiry and change; and

6. mobilize resources such as time, materials, and support to enable everyone to work towards desired student outcomes productively and efficiently.

LEARNING

Combining the leading and teaching dimensions of an administrator's role provides direction for the learning dimension. The leading dimension of an administrator's role is concerned primarily with the needs of the organization as a whole, while the teaching dimension of an administrator's role focuses more narrowly on the needs and interests of individual teachers. As a career-long learner, the administrator must attend to the knowledge and experience needed to foster both organizational and individual development.

The topic of a knowledge base for administrators is complex, inconclusive in the educational literature (Schleety, 1991), and beyond the scope of this book. Administrators need to have a generalist's mastery of the domains of teacher knowledge. However, they certainly cannot be expected to match the teacher for depth of content knowledge, and will not always match the teacher's depth of knowledge in other domains either. The different roles that administrators and teachers have require a different knowledge and skill base.

CONCLUSION

In essence, a professional educator's development is not totally within his or her control. The culture within which an educator works can constrain or enable, limit or encourage the work of that individual. However, the converse is also true. An enabling culture alone is not sufficient for the educator's development. He or she must take initiative. In fact, without the contributions of most individuals, an enabling culture will wither and die or simply not grow at all. Cultures and the people who live within them and give them life are mutually inter-dependent. To the extent that a school culture enables professional development, and to the extent that an educator seeks professional development, to that extent will each thrive.

REFLECTIVE ACTIVITIES

The early stages of shifting from a traditional, constraining culture to a transformed, enabling one are full of opportunities to get assistance from outside the school or district. Outsiders can sometimes lead the way toward new behaviors better than insiders, since by virtue of their outside status they are exempt from the rules of the existing culture. They can break existing informal rules for behavior without incurring the penalty that would probably fall on an insider.

You may wish to engage an outsider to lead your school through some of these activities. A good group facilitator will focus your discussion and lead you to understandings you otherwise might miss. After all, one of the essential features of an organizational culture is that it operates informally and below the level of our day-in and day-out consciousness.

1. Brainstorm your own list of the characteristics of an enabling culture. What features do you think are essential to optimize your work as a teacher, a leader, and a learner? What features will optimize students' learning outcomes? What features will ensure that the beliefs and values we hold about our profession come alive every day in school?

2. List the characteristics of an enabling culture described in this chapter on the left hand side of a sheet of paper and write an example on the right hand side which illustrates that characteristic in action in your school. Compare your individual answers with those of others. What characteristics are alive and well? Which ones are not manifested in your school? What are you going to do to ensure that the ones that need attention get it? What are you going to do to ensure that the characteristics that are present in your school are continuously nurtured?

3. Review the mission statement or guiding goals of your district. Does the document convey an expectation of an enabling culture? How so or how not?

4. What does the following poem by Stromberg, noted by Roland Barth (1986) in "School: A Community of Leaders," say to you about an enabling school culture?

One day—lying alone on the lawn on my back
with only the drone of a distant train
on some far off track,

I saw before my eyes, 500 feet high or more,
a sight— which to this day, I must say,
I've seen nothing like before.
The head goose— the leader of the V—
suddenly veered out, leaving a vacancy
which was promptly filled by the bird behind.
The former leader then flew alongside,
the formation continued growing wide—
and he found a place at the back of the line.
They never missed a beat.

5. Writing about the role of the building principal, Roland Barth (1986) emphasized that a principal should “be an insulator for teachers from competing demands rather than a conductor of these demands.” Get together with one or two teachers and administrators and consider this statement in terms of your own beliefs and experience.

6. Core values permeate our work settings and we reflect them constantly and variously as we carry out our roles and responsibilities. For example, they might appear in the roles people assume (only administrators are assigned as chairpersons of committees), in the ways priorities are communicated (if the parent can only come at 7 a.m., that's when we schedule the conference), and how time is utilized (language arts is always taught in the morning). Think about the messages, both obvious and subtle, that your school sends about its practices. For example, willingness to schedule a parent-teacher conference at a time convenient for the parent, though perhaps inconvenient for us, communicates a belief that parent support is paramount to student success.

7. Think of a metaphor or create a drawing which symbolizes your school. What are the features of which you are proud? What would you change?

VII. CONCLUSION

We believe that teaching is successful to the extent that students learn what we have decided they should know and be able to do. At the outset, this belief requires us to specify clearly what student outcomes we believe are worthy. Given that specification, meaningful and useful professional development and teacher evaluation is designed and implemented solely to assist teachers in helping students achieve specified outcomes. Experienced teachers need support from the rest of us in coming to an informed judgment about how well their students are achieving desired outcomes. They also need all the resources, both tangible and intangible, which others can bring to bear.

The starting point for formulating a professional development and teacher evaluation system rests in our attitude toward teachers. We started with the belief that teachers are capable, autonomous professionals with the welfare of students at the center of their work. With this assumption in mind, we went on to describe six elements of a synergistic and effective professional development and teacher evaluation model: desired student outcomes, teacher beliefs, teacher knowledge, teacher responsibilities, administrator responsibilities, and enabling school culture. Although we addressed each of these elements separately, we believe they form an integral whole; the connections among them are as important as the elements themselves.

GETTING STARTED

The design of each local school system must be contextual and idiosyncratic, just as fine teaching is contextual and idiosyncratic. We believe each educator can begin experimenting with this model at almost any point. Individual classroom teachers can begin by considering any one of the six elements using any activity we have suggested, or by formulating his or her own approach. Individual administrators can begin the same way.

Systems, either at the district or building level, can also enter the model at any point most useful.

Consider the Professional Educator Development Model as a map (presented again on the following page). The journey it delineates is circular in the sense that travelers may enter at any point, move from one spot on the map to the next, and return at the end to the point of entry. In this way, we will address all elements of the model. It is the connections among elements that are important, not the order in which they are addressed.

We recommend collaboration highly. Although individuals can and must make progress, development happens both more broadly and more deeply when several of us work together. We five authors see ourselves as evidence of that. This document is truly the work of all of us; our conversations extended and deepened each of our contributions. None of us could point to a particular chapter or page and say, "This is my work alone." It may be fruitful, as we suggested above, for a system to contract with an outside consultant at the beginning of a project to help implement the Professional Educator Development Model. Outsiders can focus on the task of change exclusively, while the rest of us still must do our daily work. Outsiders can also bring fresh eyes to practices and attitudes with which we are so familiar that their implications escape us.

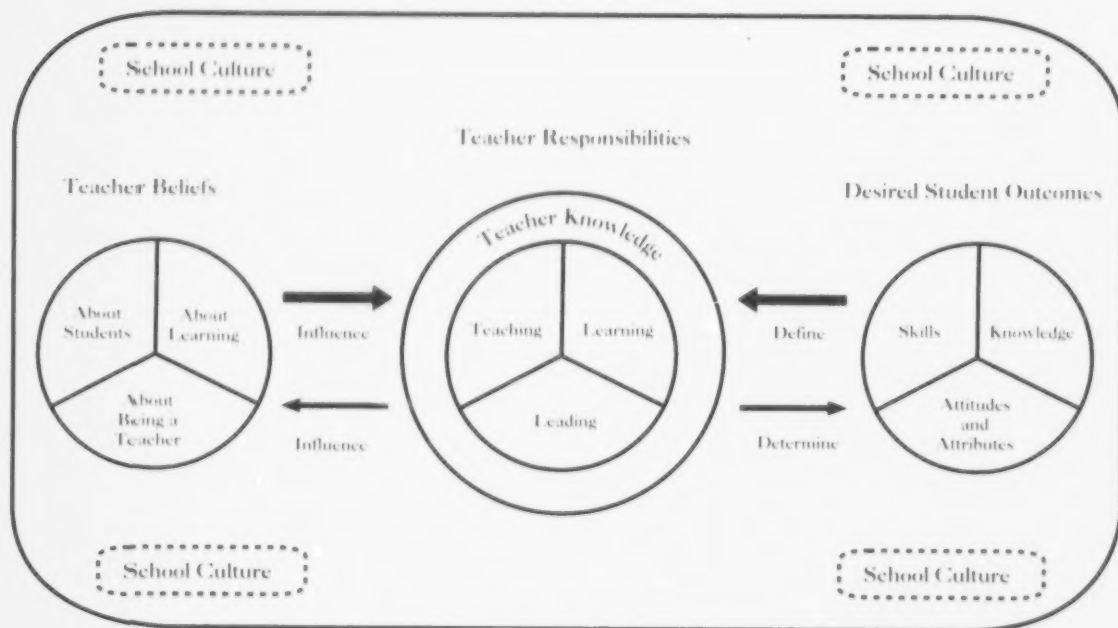
NEXT STEPS

Throughout our work on the Professional Educator Development Model, we resisted the temptation to explore many related topics, temporarily anyway. All projects must have boundaries. But because we see ourselves continuing to learn, lead, and teach, we recommend here three related areas for further exploration in the Professional Educator Development Model. You may think of others.

First and foremost is the topic of student outcomes. In this monograph, we have emphasized that clarity about student outcomes is essential for implementation of Professional Development Educator Model. By citing Connecticut's Common Core of Learning, we offered one example of what a comprehensive specification of student outcomes looks like. We did not, however, consider the complicated issue of how such a document gets

Figure 1

Professional Educator Development Model



translated into policy and practice in particular districts, schools, and classrooms.

Secondly, we stated our firmly held opinion that assessment of student learning is a far more complex task than simply designing a new generation of paper and pencil tests (be they nationally or locally designed and administered), but we did not describe any of the interesting and exciting work now underway in performance assessment. Our opinion is that a teacher development and evaluation program that focuses on student outcomes will not bear its fullest fruit unless it assesses what students know and are able to do in far more sophisticated ways than assessments do now.

Finally, we indicated that the knowledge base that guides administrators is currently being re-examined (Donmoyer, 1991). Much work needs to be done to develop an intellectual framework for redefining administrators' work.

We hope that our description of the elements constituting a model for experienced teachers' evaluation and professional development, and our suggestions of activities through which practitioners can address these elements, will spark the vast creativity that we know resides in our colleagues everywhere. We invite you to contact us with stories about your successes and failures. In that way, the conversation really will continue.

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APPENDIX A

THE CONNECTICUT COMPETENCY INSTRUMENT

THE CONNECTICUT COMPETENCY INSTRUMENT

The Connecticut Competency Instrument (CCI) is a high inference instrument developed by the Connecticut State Department of Education to assess the performance of first-year teachers in the classroom as a condition of continued certification. Trained assessors (teachers, administrators, or other persons with extensive background in education) observe first-year teachers in the classroom, take extensive notes, and then analyze these notes for evidence that the beginning teacher is practicing each of the 10 indicators of the instrument. Assessors are trained and certified competent to judge first-year teachers on each of the indicators.

The CCI is discussed in the fourth chapter, "Teacher Knowledge." Grounded as it is in the product-process research of recent decades, is one example of bringing a pedagogical research base to bear in practice.

In the fifth chapter, "Teacher Responsibilities", the CCI illustrates a framework that can be used to generate specific conversation about teaching.

THE BEST PROGRAM

The Beginning Educator Support and Training (BEST) Program is a comprehensive induction program of support and assessment for beginning teachers. Mentors, who are assigned to all beginning teachers, form the core of the support system. These specially trained, experienced teachers serve as resources, coaches, and confidants for beginning teachers. The classroom performance assessment within the BEST Program is designed to ensure that new teachers can integrate essential skills, subject knowledge, and professional knowledge (pedagogy) into the teaching/learning process. The CCI was developed to assess teaching competencies that are observable in classroom performance, including management, instruction, and assessment of

student progress. The Division of Research, Evaluation, and Assessment within the Connecticut State Department of Education is currently developing semi-structured interviews that will be conducted by trained, experienced teachers in an assessment center setting to evaluate new teachers' content-specific pedagogical knowledge.

DEVELOPMENT OF THE CCI

The CCI is the product of extensive development, pilot testing, and modification. Hundreds of Connecticut educators have contributed to this indicator of beginning teacher competencies. National experts reviewed drafts of the instrument and an instrument design team has reviewed the research literature, wrote and revised each draft, and conducted pilot observations in classrooms. Forty-two assessors pilot tested the March 1988 edition of the CCI, observing 36 beginning teachers in 27 school districts throughout the state. A major field test and generalizability study were conducted in 1988-89 with 250 assessors and 220 beginning teachers. Concurrent with these instrument development activities, 1,582 Connecticut educators participated in a content validation study, judging the importance and job-relevance of the CCI indicator for assessing the competence of beginning teachers. Finally, use of the CCI was closely monitored during the first year of implementation, during which it was used to assess approximately 300 beginning teachers. Additional data were collected during the first two years of implementation. The textual clarifications in the version reprinted here are based upon that experience.

PHILOSOPHY AND APPROACH OF THE CCI

The CCI's holistic approach embodies several assumptions. These differentiate it from a number of classroom observation systems in use by other states.

Effective teaching can take many forms. The CCI's design acknowledges that competent teaching may be manifested in diverse ways. The goal of competent teaching is student learning, not adherence to a particular model of instruction. Thus, the CCI incorporates those teaching behaviors and teaching-learning

processes that research has shown to positively affect learning. Teachers following different teaching models have an equal opportunity to demonstrate their effectiveness on the dimensions of teaching competence that the CCI assesses. Beginning teachers are not expected to alter their plans when an assessor is present. There are many roads to acceptable performance on the CCI.

Critical dimensions of teacher performance that promote learning can be defined across diverse educational contexts. The CCI defines critical aspects of teachers' classroom performance without reference to specific grade levels, subject matter, urban/rural school settings, or special populations. For example, rapport is critical for effective teaching. But there is considerable variation in the ways teachers establish rapport with students; how a teacher establishes rapport with third graders may be different from the techniques used to establish rapport with middle school students. Similarly, the way a teacher structures lessons for a kindergarten class will be different from what is appropriate for a high school advanced placement lesson. In fact, throughout the CCI the term "lesson" should be interpreted broadly as the learning activities that occur during the time of the assessment.

Beginning teachers' competence as decisionmakers can be differentiated from that of experienced teachers. The levels of competency important for beginning teachers are different from the levels that define expert, more experienced teaching. CCI indicators focus on the level appropriate for beginning teachers in Connecticut. Teaching is a continuous decisionmaking process. The standards embodied in the CCI indicators require professional competence, but do not require that beginning teachers make the optimal choices that an expert teacher might make.

Effective teaching is sensitive to cultural diversity. Education in today's society demands a sensitivity to cultural differences not expected in other professions. Competent beginning teachers will help prepare children to participate in a culturally diverse world as well as teach in ways that help all children learn. This concern pervades the definitions of competent teaching throughout the CCI. For example, the effective teacher is expected to accept and be interested in all students, to encourage all children to achieve at the highest level they can, to engage all children in learning activities, to take into account individual differences in social and emotional development, to give all students an opportunity to be involved in learning activities and, when necessary, to adjust instruction so that all students have an opportunity to master the learning objectives.

Effective teaching must be judged in the context of the teacher's objectives. Many teaching competencies can not be judged independent of the teacher's lesson objectives. Presenting appropriate content, creating the structure for learning, developing the lesson to promote achievement of instructional objectives, and using appropriate questioning are all important to achieving the teacher's objectives for student learning. Therefore, CCI assessors are not looking for isolated instances of, for example, a good lesson initiation or effective use of questions to involve students in learning activities. The effectiveness of these teaching behaviors can only be assessed with reference to the teacher's aims. For this reason, the CCI assessment process pays considerable attention to providing assessors an understanding of the teacher's objectives before the classroom observation begins.

Professional judgment is vital to teacher assessment. The professional judgment of trained assessors is critical in making decisions about teacher competence. The CCI is not a checklist in which a predetermined number of points add up to a decision about a teacher's competence. Rather, experienced educators who are trained CCI assessors weigh the evidence from their observations and use their professional judgment to determine whether the teacher's performance is acceptable on each of the 10 indicators. Both training and experience are essential for applying the CCI criteria. Experience provides the professional lens through which teaching is viewed. Training ensures the CCI that criteria are applied consistently.

THE STRUCTURE OF THE CCI

The 10 CCI indicators are organized into three clusters of competencies, these can be thought of holistically as aspects of the instructional process. The clusters are: management of the classroom environment; instruction; and assessment of students' understanding. In each cluster, the focus is primarily teacher behavior, but the impact on student behavior is also critical.

Indicator and rationale. Each of the 10 indicators is introduced with a paragraph that describes it and provides a brief rationale for why the indicators included.

Defining attributes. The second section for each indicator describes the essential ingredients, i.e., its defining attributes. While observing classrooms, assessors record and analyze data

related to each of defining attribute. Each defining attribute contains one or more concepts — the critical elements assessors look for as they write following observations.

Decision rules. Defining attributes are followed by decision rules. These describe the evidence that governs an acceptable or unacceptable rating. Assessors learn to use decision rules for each indicator to record classroom talk and activity, to relate this to each defining attribute, and to use this data to assess the beginning teacher's skills.

Examples. As part of their training, assessors are provided with numerous examples of teacher or student behavior or classroom situations. The purpose of this is to further explicate the meaning of the concepts and defining attributes of each indicator. The examples illustrate how different teachers using diverse instructional models might exhibit the defining attributes in various classroom settings, grade levels, and subject areas. Additional illustrations are generated and discussed during assessor training and demonstrated in training videotapes.

THE ASSESSMENT PROCESS

The CCI assessment process is carried out over a series of six observations during the teacher's first year of teaching. Before each scheduled observation, the teacher completes a pre-assessment information form. This provides the assessor with extensive context information — the learning objectives the teacher has for the period to be observed, the learning activities planned, information about the context of the lesson, and information about the classroom and students. On the day of the observation, before class begins, the assessor conducts a brief pre-observation interview with the teacher. This gives the assessor an opportunity to ask questions about the teacher's objectives for the class. Following the observation period, a brief post-observation interview gives the teacher a chance to explain any changes in plans that occurred during the observation period. After each observation, the assessor completes the analysis of his or her documentation, writes evidence, rates the teaching performance "acceptable" or "unacceptable" on each indicator, and forwards the information to the state for processing. When all six assessments have been completed, the certification recommendation is made based upon the combined scores. The assessor also evaluates the teacher's

performance on the defining attributes of each indicator, but this information is only to provide the teacher with feedback.

A FINAL CAUTION

Teaching is an extraordinarily complex activity. The CCI attempts to capture the essential elements of the competencies that beginning teachers in Connecticut must demonstrate before they are granted a provisional teaching certificate. Accurate and reliable assessment of these competencies is itself a high-level skill. It is achievable only through careful training and practice built upon educators' knowledge and classroom experience. The CCI should never be used without the grounding provided by such experience and training.

I. MANAGEMENT OF THE CLASSROOM ENVIRONMENT

This cluster includes four indicators:

INDICATOR 1- THE TEACHER PROMOTES A POSITIVE LEARNING ENVIRONMENT

The teacher is responsible for the nature and quality of teacher-student interactions in her or his classroom. The teacher's perception of students and their abilities directly affects students' responses, motivation, and achievement. The teacher's interactions with students should be positive and designed to enhance the learning environment. The beginning teacher, therefore, establishes and maintains a positive learning environment by creating a physical environment conducive to learning and maintaining both positive teacher-student and student-student interactions.

DEFINING ATTRIBUTES

Three defining attributes characterize a positive learning environment. These reflect a variety of techniques for promoting positive teacher-student interactions and a physical environment that is conducive to learning:

- **Rapport.** The teacher establishes rapport with all students by demonstrating patience, acceptance, empathy, and/or interest in students through positive verbal and nonverbal exchanges. The teacher avoids sarcasm, disparaging remarks, sexist and racial comments, scapegoating, and physical abuse. The teacher also exhibits her or his own enthusiasm for the content and for learning and maintains a positive social and emotional atmosphere in the learning environment.

- **Communication of expectations for academic achievement.** The teacher creates a climate that encourages all students to achieve. Expectations for success may be explicitly verbalized or communicated through the teacher's approach to assigning tasks, rewarding student effort, and providing help and encouragement to all students.
- **Physical environment.** To the extent it is under her or his control, the teacher establishes a physical environment that is safe and conducive to learning.

For this indicator to be rated ACCEPTABLE, there must be: positive evidence for each of the three defining attributes, a preponderance of positive evidence for rapport, no physical abuse, and a physical environment that is safe.

INDICATOR 2- THE TEACHER MAINTAINS APPROPRIATE STANDARDS OF BEHAVIOR

Research shows that effective teachers use management practices that include concrete, functional, and explicit rules and standards that are established early in the school year and maintained throughout the year. Fitting consequences should be applied to both appropriate and inappropriate behaviors. Teachers' standards or rules may vary, but their use in the management of behavior should assist in effectively facilitating the teaching-learning process in the classroom. The beginning teacher will maintain these standards through clear and consistent expectations for appropriate student behavior.

DEFINING ATTRIBUTE

There is one defining attribute for the process of maintaining appropriate standards for behavior:

- **Rules and standards of behavior.** Either through explicit statements of rules or through responses to student behavior, the teacher communicates and reinforces appropriate standards of behavior for the students. The teacher applies fitting consequences when student behavior is either appropriate (i.e., consistent with the

standards) or inappropriate. Even though a teacher's standards may vary, they should have the effect of facilitating student learning. A pattern of appropriate behavior indicates that rules and standards have been previously communicated to the students. A pattern of inappropriate behavior that indicates rules and standards of behavior are not being maintained.

INDICATOR 3- THE TEACHER ENGAGES THE STUDENTS IN THE ACTIVITIES OF THE LESSON

The amount of time students spend on the lesson tasks is important because it is a reflection and outcome of the teacher's management and instructional skills. Research consistently shows that the amount of time students spend successfully engaged in activities relevant to the lesson objectives is positively related to student achievement. Conversely, time spent disengaged or off-task is associated with low achievement gains. This indicator assesses the engagement of students in the activities of the lesson.

DEFINING ATTRIBUTE

There are two defining attributes for student engagement:

- **Student engagement.** The beginning teacher engages a clear majority (at least 80 percent) of the students in the activities of the lesson. Engagement is defined as students' involvement in lesson activities consistent with the teacher's expectations or directions. Although a high rate of engagement is expected, it is acceptable for students to be momentarily off-task from time to time during a lesson.
- **Re-engagement.** When any student is persistently off-task, the teacher must attempt to bring her/him back on task. A variety of strategies may be used. A teacher's attempt to re-engage a student need not be successful; however, when unsuccessful, the teacher must make additional attempts to re-engage the student.

For this indicator to be rated ACCEPTABLE, on the average, 80 percent of the students must be engaged in activities of the lesson, and the teacher must demonstrate efforts to re-engage students who are persistently off-task.

INDICATOR 4- THE TEACHER EFFECTIVELY MANAGES ROUTINES AND TRANSITIONS

How teachers allocate and manage the administrative and organizational activities of the classroom has a direct bearing on the amount of time that is available for instruction and the quality of that instruction. Whereas Indicator 3 is concerned with the amount of instructional time in which students are actually engaged in learning activities, this indicator deals with how the teacher manages the non-instructional time. It is expected that the beginning teacher will effectively use the time allocated for instruction by managing routines and transitions to support the purposes of instruction.

Classroom routines are non-instructional, organizational, administrative, or repetitive activities such as roll-taking, pencil-sharpening, or the distribution of materials and equipment, although the latter may be in preparation for subsequent instruction. Transitions are non-instructional organizational or administrative moves from one classroom activity or context to another. Transitions may occur between instructional activities as well as between an instructional and a non-instructional activity.

DEFINING ATTRIBUTE

There is one defining attribute of the management of routines and transitions:

- **Effectiveness.** The teacher should provide effective routines and transitions that reflect established norms and a sense of structure. When appropriate, resources and materials should be organized and available. In addition, the amount of time spent on routines and transitions should be appropriate for their purpose and the makeup of the class. Depending upon the nature and purpose of a routine or transition, proceeding too quickly may be as detrimental as taking too much time with the non-instructional activities.

This indicator must be rated UNACCEPTABLE if, overall, the management of routines and transitions significantly detracts from instruction.

II. INSTRUCTION

This cluster includes five indicators.

INDICATOR 5- THE TEACHER PRESENTS APPROPRIATE LESSON CONTENT

Research shows that teaching is most effective when content is both accurate and at a level of difficulty or complexity appropriate for learners. The competent beginning teacher should demonstrate mastery of the subject matter through the representation and delivery of accurate content. The content of the lesson should also be aligned with the objectives of the lesson. Content includes, but is not limited to, lesson materials, student discussion, activities, practice, modeling, demonstrations, teacher presentation, and teacher questioning.

DEFINING ATTRIBUTES

There are three defining attributes for assessing lesson content:

- **Choice of content.** The content must be aligned with the lesson objectives. Teachers should not significantly deviate from the lesson content as specified in the objectives, unless the objectives or activities are modified during the lesson.
- **Level of difficulty.** The lesson content must be at a level of difficulty (neither too easy nor too hard) that is suitable for the level of students' cognitive development. Content should also be at an appropriate level for the students' social, emotional, and/or physical development. The teacher should use vocabulary and language appropriate to the learners. The appropriate level of difficulty may differ among students, and often the appropriateness may be judged by student responses and behavior.

- **Accuracy.** The lesson content must be accurate. Infrequent, minor inaccuracies not significantly related to the content should not be considered in rating this defining attribute.

For this indicator to be rated ACCEPTABLE, there must be a preponderance of positive evidence for each of the three defining attributes.

INDICATOR 6- THE TEACHER CREATES A STRUCTURE FOR LEARNING

The beginning teacher is responsible for providing the structure in which learning occurs. A consistent research finding is that when teachers appropriately structure instructional information, student achievement increases. Research shows that initiations facilitate student understanding. Closures, meanwhile, assist students in integrating and processing information. Practitioners and education specialists believe that both are an important part of the lesson's structure.

DEFINING ATTRIBUTE

There are two defining attributes of creating a structure for learning:

- **Initiations.** Initiations must relate to lesson objectives and help students anticipate or focus on the lesson content. The beginning teacher will provide initiations at the beginning of the lesson or between significant instructional elements throughout the lesson. Frequently, initiations preview what is to be learned, why it is to be learned, or how it relates to past or future learning. Initiations have a role in motivating students. Initiations may be explicit statements or may occur through established instructional activities or teacher modeling tied to the lesson objectives. Simply stating the activities in which the students will engage is not sufficient for initiation.
- **Closures.** Closures must relate to lesson objectives and help students understand the purpose of the lesson

content. The beginning teacher is responsible for closure at the end of the lesson or between significant instructional elements throughout the lesson. Simply restating lesson objectives is not sufficient for closure.

For this indicator to be rated ACCEPTABLE, there must be a preponderance of positive evidence for each of the two defining attributes.

INDICATOR 7- THE TEACHER DEVELOPS THE LESSON TO PROMOTE ACHIEVEMENT OF THE LESSON OBJECTIVES

Development is the heart of the lesson and the key to establishing meaning for students and achieving lesson objectives. It is in developing the lesson that the teacher organizes instructional activities and materials to enhance students' learning of lesson content. Effective development motivates and moves students toward the lesson objectives. In an effectively developed lesson, related elements are manifestly linked to each other, and the materials and instructional arrangements contribute to the lesson's momentum. Lesson elements are discrete parts of a lesson. Their beginnings or endings may be indicated by a change of activity, topic or instructional arrangement.

DEFINING ATTRIBUTES

There are two defining attributes of effective lesson development.

- **Lesson development.** Effective lesson development: provides an underlying order within and among lesson elements, manifests a link between related lesson elements, and leads students to learn the content of each element. Effective lesson development integrates these three components into a conceptual whole which establishes meaning for students and moves them toward achieving the lesson objective(s). The content of the lesson element(s) must be related to the lesson objective(s).

- **Instructional arrangements and materials.** Materials and instructional arrangements must purposefully support the development of the lesson. They should be used to promote student interest and involvement in the lesson.

For this indicator to be rated ACCEPTABLE, there must be a preponderance of positive evidence for lesson development, and positive evidence for use of instructional arrangements and materials.

This indicator must be rated UNACCEPTABLE if: the lesson objectives (from pre-assessment information form and pre- and post-observation interviews) are unclear, so that effectiveness of lesson development cannot be judged.

INDICATOR 8- THE TEACHER USES APPROPRIATE QUESTIONING STRATEGIES

Questioning is an important aspect of instruction. It stimulates and develops students' thinking and helps communicate what is to be learned. Questioning strategies also encourage the exchange of ideas or information between and among students and assist students in meeting the lesson objectives. Questioning may be explicit and verbal or may be implicitly embedded in lesson materials or activities. When using explicit questioning, the competent beginning teacher waits for and listens to student answers, effectively responds, and incorporates those answers into the lesson. Questioning may be explicit and verbal or may be implicitly embedded in lesson materials or activities. Questioning includes any activity the teacher uses to obtain student oral, written, or non-verbal responses to the content of the lesson.

DEFINING ATTRIBUTE

Three defining attributes are applied to assess questioning:

- **Cognitive level.** The level of questioning must be appropriate to lesson objectives. If the teacher is seeking recall of basic facts or concepts, then questions of a lower cognitive level are appropriate. If the teacher's purpose is to stimulate higher-level thinking, such as analysis and evaluation, then questions of a higher cognitive level are

appropriate. In many lessons, a variety of questioning levels will be appropriate.

- **Responding to students.** The teacher should respond to student replies, failures to answer questions, and/or comments. Where appropriate, the teacher builds upon student contributions to the lesson objectives. Responses may include waiting, clarifying, refocusing, acknowledging correct responses, providing corrective feedback, extending, or prompting.
- **Opportunities for student involvement.** Opportunities for student involvement must be provided by allowing all students an opportunity to answer the questions and seeking answers from a variety of students. Opportunities may include student-initiated questions and tasks as well as teacher-initiated questions. Appropriate use of wait time gives all students an opportunity to become involved in questioning activity.

For this indicator to be rated ACCEPTABLE, there must be a preponderance of positive evidence for each of the three defining attributes. If there are no questions during the lesson, this indicator must be rated UNACCEPTABLE.

INDICATOR 9- THE TEACHER COMMUNICATES CLEARLY, USING PRECISE LANGUAGE AND ACCEPTABLE ORAL EXPRESSIONS

The quality of teacher communication is important for student learning. Teachers should provide clear presentations and explanations of the lesson content. Precise communication and clear speech should serve to enhance student understanding. Teachers are expected to model acceptable oral expressions.

DEFINING ATTRIBUTES

There are three attributes that define acceptable teacher communication:

- **Precision of communication.** Precision of communication refers to the communication of meaning. The teacher must communicate in a coherent manner, avoiding

vagueness and ambiguity that interfere with student understanding. Precision of communication includes giving directions.

- **Clarity of speech.** Clarity of speech refers to the technical quality of communication. This consists of the teacher's articulation, volume, and rate of delivery, which must not interfere with student understanding.
- **Oral expressions.** A pattern of unacceptable oral expressions must be avoided, including incorrect grammar and slang. It is acceptable for teachers to selectively use current popular phrases or slang to make a point, establish rapport or enhance learning. Vulgarity should be avoided.

For this indicator to be rated ACCEPTABLE, there must be a preponderance of positive evidence for each of the three defining attributes.

III. ASSESSMENT

This cluster contains the final indicator.

INDICATOR 10- THE TEACHER MONITORS STUDENT UNDERSTANDING OF THE LESSON AND ADJUSTS INSTRUCTION WHEN NECESSARY

The importance of monitoring and adjusting is underscored by research on teaching. More learning will occur when teachers regularly monitor their students' understanding and adjust instruction when appropriate. The two components support one another in promoting student understanding; appropriate adjustment is contingent upon sufficient monitoring. Neither should be viewed separately. The beginning teacher should monitor students' understanding at appropriate points in the lesson and adjust her or his teaching when the resulting information indicates it is necessary to do so.

DEFINING ATTRIBUTES

This indicator has two defining attributes:

- **Monitoring for understanding.** The purpose of monitoring is to assure that students are understanding the lesson content and moving toward lesson objectives. Toward this end, the teacher must check a variety of students' levels of understanding at appropriate points during the lesson. These points include (but are not limited to) the completion of a lesson element and after an adjustment has been made.
- **Adjusting when necessary.** The teacher must use appropriate strategies to adjust his or her teaching when monitoring or spontaneous student response indicates that students misunderstand or are failing to learn. Strategies for adjustment may include re-presenting information, re-explaining a concept, asking different

types of questions, and or slowing the pace of instruction. The teacher will also use appropriate strategies to adjust his or her teaching when monitoring indicates that students have mastered the concepts being taught. Such strategies may include accelerating the pace of instruction, providing enrichment activities, and/or moving on to new material. When monitoring indicates that adjustment is necessary but it is not possible to do so within the lesson, the teacher must explain to students that an adjustment will be made at a later time.

For this indicator to be rated ACCEPTABLE, there must be a preponderance of positive evidence for monitoring, and adjusting, or acknowledging to students the need for adjustment, when necessary.



APPENDIX B

COMPETENCIES FOR EXPERIENCED TEACHERS

COMPETENCIES FOR EXPERIENCED TEACHERS

The list of experienced teachers' effective teaching behavior (Covino, 1991) goes beyond the more basic behaviors expected of beginning teachers. The following list of 23 competencies was validated by experienced teachers as essential to their work, and is another, more complex framework that can be used to analyze actual teaching as discussed in the fifth chapter, "Teacher Responsibilities."

COMPETENCY 1: MONITORS STUDENT UNDERSTANDING DURING INSTRUCTION

- Encourages students to ask questions for clarification.
- Assists students to arrive at correct answers by asking appropriate questions.
- Talks with students to assess their level of understanding.
- Asks students to elaborate, explain, or clarify their answers in order to assess student understanding.
- Asks students to give examples or analogies with their answers to determine the extent of students' understanding.
- Recognizes when student responses indicate misunderstanding.
- Redirects multiple answer questions to several students to assess their understanding.
- Encourages both volunteers and those who don't volunteer to answer teacher's questions.
- Responds to student's responses.

COMPETENCY 2: USES HIGH INTEREST LESSONS

- Includes fantasy or simulation elements in lesson.
- Allows students to make choices about activities, assignments, and projects.
- Includes novelty and variety elements in class lessons.
- Includes appropriate competitive activities and games in lessons.
- Encourages students to make choices about what, how, and when they learn.
- Adapts tasks to students' interests.
- Provides opportunities for students to learn by interacting with peers.

COMPETENCY 3: COMMUNICATES TO ALL STUDENTS THE EXPECTATION THAT THEY ARE TO ACHIEVE THEIR BEST

- Communicates to all students the expectations that all students will participate in class by distributing response opportunities to all students.
- Treats responses from all students in an equitable manner regarding wait times, praise, and teacher response.
- Communicates high expectations for academic performance to all students, including those identified as low achievers.
- Refrains from allowing socioeconomic factors about students bias judgment about the students' learning capabilities.
- Displays friendliness and warmth to all students regardless of how students are classified or grouped for learning.
- Encourages students to achieve as much as they possibly can.
- Acts on the belief that all students can learn.

- Updates knowledge of students' capabilities by closely monitoring students' current performance, stressing current performance over past history.

COMPETENCY 4: ADAPTS TEACHING TO STUDENTS' LEARNING STYLES

- Chooses teaching strategy based on awareness of students' various learning styles.
- Chooses teaching strategies and activities that allow students to use their strengths and/or overcome their weaknesses.
- Adapts materials and strategies to the particular group characteristics of the class.
- Employs a variety to teaching styles to address various student learning styles.
- Varies the structure of the class (for example, flexible grouping, changing order of topics) to allow students to use strengths and/or overcome their weaknesses.

COMPETENCY 5: MOTIVATES STUDENTS EFFECTIVELY

- Adapts motivational strategies according to the already existing levels of student motivation.
- Uses a variety of techniques to tap students' extrinsic and intrinsic motivations.
- Provides activities that are meaningful and relevant students.
- Gradually increases the learning challenge after students have met the previous challenge.
- Provides activities at the appropriate level of challenge or difficulty.
- Helps students see the worth of accomplishing the activity or worth of skills learned to accomplish the activity.

COMPETENCY 6: PROVIDES OPPORTUNITIES FOR PROBLEM SOLVING

- Provides opportunities for students to employ various types of reasoning (for example, inductive and deductive reasoning).
- Checks student understanding by asking both higher- and lower-order cognitive questions.
- Models task-related thinking and problem solving in his or her own learning.
- Provides opportunities for students to organize materials that relate to the lessons on their own.
- Encourages student participation by varying the learning mode (for example, cooperative learning, laboratory work, debates).

COMPETENCY 7: USES HOMEWORK EFFECTIVELY

- Assesses students' homework to determine extent of students' understanding.
- Provides a variety of homework assignments.

COMPETENCY 8: USES A VARIETY OF INSTRUCTIONAL MATERIALS AND TECHNIQUES

- Varies the types of reinforcement used to acknowledge correct student responses.
- Varies the support materials used to maximize relating lesson to students' interests and abilities.
- Varies the pace of lessons to facilitate student understanding.
- Varies the ways used to prompt students to ask questions.
- Varies the examples when presenting information to maximize relating the lesson to students' interest and abilities.

COMPETENCY 9: ENCOURAGES STUDENTS TO TAKE RESPONSIBILITY FOR THEIR LEARNING

- Teaches students how to set goals.
- Teaches students how to appraise their own progress and performance.
- Helps students to generate their own reasons to learn.

COMPETENCY 10: USES APPROPRIATE INFORMATION TO ASSESS STUDENTS' LEARNING NEEDS

- Uses accurate and appropriate information regarding students' capabilities to determine appropriate points to initiate learning.
- Uses student feedback to constantly adjust expectations about student instruction.
- Analyzes and uses individual and group testing data to determine appropriate instruction.

COMPETENCY 11: SHARES AND USES TEACHING KNOWLEDGE AND SKILLS WITH COLLEAGUES

- Acts as a role model for less experienced or less effective teachers.
- Assists less experienced or less effective teachers to become more effective.
- Participates in collaborative efforts with colleagues.
- Supports the efforts of colleagues to improve curriculum, instruction, and the school environment.
- Shares ideas and insights with colleagues.
- Provides leadership in those areas in which she or he has some expertise or knowledge.
- Considers the needs of the school as an organization when establishing own teaching goals.
- Contributes to the establishment, maintenance, and revision of school curricula.

- Works cooperatively with supervisors when determining teaching goals.
- Utilizes peer feedback to analyze teaching strengths and weaknesses.
- Utilizes resources (for example, paraprofessionals, audio-visual equipment, computers, volunteers) effectively.
- Updates knowledge of teaching strategies and methods.

COMPETENCY 12: JUDGES LESSON EFFECTIVENESS BY CUING ON STUDENT PERFORMANCE AND BEHAVIOR

- Perceives whether intervention in student behaviors will have a positive or negative influence on student performance and attainment of the lesson objectives.
- Has a repertoire of strategies ready to correct unacceptable student performance or behavior.
- Recognizes cues that may indicate any unacceptable student performance or behavior.
- Anticipates the direction the present lesson may take by perceiving cues from students engaged in the lesson or activity.
- Reduces the complexity of classroom operation by creating management systems.
- Observes instructional activities to judge their effectiveness in facilitating student learning.
- Compares the effectiveness of the current lesson to previous lessons on the same topic.
- Plans lessons that reflect both long- and short-term instructional goals.
- Adjusts the lesson when feedback from students indicates that they are having trouble assimilating the lesson.

COMPETENCY 13: EMPLOYS EFFECTIVE CLASSROOM MANAGEMENT TECHNIQUES

- Consistently enforces rules.
- Actively teaches students the rules and procedures for classroom activities and routines.
- Plans and uses relevant consequences for both appropriate and inappropriate student behavior.
- Rehearses with or demonstrates to students the rules and procedures for activities and routines.
- Establishes rules and procedures at the beginning of school year.
- Employs both verbal and nonverbal signals to manage student behavior.

COMPETENCY 14: ANALYZES AND SEEKS TO IMPROVE OWN TEACHING

- Reconstructs, reviews, reenacts own teaching performance to determine its effectiveness.
- Discards ineffective teaching tactics and attempts to develop more effective tactics.
- Reflects on past teaching experiences to critically analyze present teaching performance.
- Seeks ways to improve teaching skills.
- Uses feedback from a variety of sources to help improve teaching effectiveness.
- Recognizes own teaching strengths and weaknesses.

COMPETENCY 15: EMPLOYS KNOWLEDGE OF STUDENTS AND SUBJECT TO FACILITATE STUDENT LEARNING

- Recognizes and addresses those aspects of the subject matter that are crucial for students to understanding before proceeding to the next topic.

- Recognizes and addresses those aspects of the subject matter that will pose the greatest difficulty for students to understand.
- Adapts subject matter to a level that will match students' cognitive abilities.
- Sequences subject matter in logical ways that facilitate student understanding.
- Recognizes and addresses students' preconceptions and misconceptions of subject matter.
- Uses various examples, explanations, metaphors, or demonstrations to teach the subject matter.
- Uses knowledge of students' abilities and readiness to plan appropriate lessons.

COMPETENCY 16: MAXIMIZES INSTRUCTIONAL TIME

- Keeps the intended activity moving forward with minimum interruption.
- Intervenes quickly to stop student misbehavior perceived as interfering with the primary purpose of the lesson.
- Minimizes the length and the frequency of non-instructional, transitional time between learning activities.
- Utilizes routines to minimize non-instructional time.
- Lets students know that he or she is aware of what students are doing or saying by actively noting these events.
- Monitors students while they perform classroom activities.

COMPETENCY 17: EXTENDS THE SUBJECT MATTER

- Shares with students a knowledge of the subject that goes beyond the basic textbook used in the classroom.
- Obtains subject matter from a variety of sources.

- Uses knowledge of related subject areas to bridge and reinforce principles of main subject.
- Demonstrates to students that certain problems are similar enough to each other to allow similar problem solving techniques.

COMPETENCY 18: PLANS LESSON PARAMETERS

- Facilitates own lesson planning efficiency by including instructional and managerial routines in the lesson plan design.
- Plans ways to measure the effectiveness of the lesson both during the lesson and after the lesson takes place.
- Includes measurable student learning outcomes in lesson plans.
- Considers time constraints on lessons when planning those lessons.

COMPETENCY 19: PLANS CONTENT AND ACTIVITIES FOR LESSON

- Plans appropriate activities that will enhance student learning.
- Plans the use of resources to enhance student learning.
- Selects and organizes content to facilitate student understanding of the subject matter when planning lessons.

COMPETENCY 20: COMMUNICATES WITH PARENTS

- Uses a variety of ways to foster parent involvement in their children's education.
- Sends clear communications to parents.

**COMPETENCY 21: STRESSES STUDENT
ACCOUNTABILITY**

- Stresses to students that they are accountable for all classwork and homework.
- Explains to students the requirements and standards of classwork and homework.

**COMPETENCY 22: POSSESSES GOOD KNOWLEDGE
OF SUBJECT MATTER**

- Has a thorough knowledge of the subject matter.
- Updates knowledge of the subject matter.

COMPETENCY 23: (NO NAME)

- Utilizes peer feedback to analyze teaching strengths and weaknesses.

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